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TM 11-5820-204-15

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**TECHNICAL MANUAL**

**OPERATOR'S ORGANIZATIONAL, DIRECT SUPPORT, GENERAL SUPPORT,  
AND DEPOT MAINTENANCE MANUAL  
INCLUDING REPAIR PARTS AND SPECIAL TOOLS LISTS**

**RADIO TERMINAL SET AN/MRC-69(V)**

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**HEADQUARTERS, DEPARTMENT OF THE ARMY**  
**JULY 1965**

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## **WARNING**

High voltage is used in this equipment.  
Death on contact may result if safety precautions are not observed.

### **EXTREMELY HIGH POTENTIALS EXIST IN THE FOLLOWING UNITS:**

Signal and power entrance box	115 volts ac
Power distribution panel	115 volts ac
Terminal, Telephone AN/TCC-50	200 volts dc
Terminal, Telephone AN/TCC-7	600 volts dc
Radio equipment	700 volts dc
Converter, Telegraph-Telephone Signal TA-182/U	570 volts dc
Intercommunication Station LS-147C/FI	270 volts dc

### **VENTILATION IS ESSENTIAL**

Radio Terminal Set AN/MRC-69(V) must be ventilated at all times when occupied.

### **DON'T TAKE CHANCES!**

## **WARNING**

Operator and maintenance personnel should be familiar with the requirements of TB SIG 291 before attempting installation or operation of the equipment covered in this manual. Failure to follow requirements of TB SIG 291 could result in injury or DEATH.

# WARNING RADIATION HAZARD



**RADIOACTIVE MATERIAL  
CONTROLLED DISPOSAL REQUIRED  
ACCOUNTABILITY NOT REQUIRED**

STD RW -2

## Electron Tube OB2WA

EEVC .....U 238 .....0.1uCi  
Raytheon .....Co 60 .....0.2uCi

**Radiation Hazard Information:** The following radiation hazard information must be read and understood by all personnel before operating or repairing Communication Systems AN/TSC-18 and AN/TSC-19. Hazardous radioactive materials are present in the above listed components of the ME-26A, B/U.

The components are potentially hazardous when broken. See qualified medical personnel and the local Radiological Protection Officer (RPO) immediately, if you are exposed to or cut by broken components. First aid instructions are contained in TB 43-0116, TB 43-0122, and AR 755-15.

**Change 2**

NEVER place radioactive components in your pocket. Use extreme care NOT to break radioactive components while handling them.

NEVER remove radioactive components from cartons until you are ready to use them.

If any of these components are broken, notify the local RPO immediately. The RPO will survey the immediate area for radiological contamination and will supervise the removal of broken components. The above listed radioactive components *will not* be repaired or disassembled.

Disposal of broken, unserviceable, or unwanted radioactive components will be accomplished in accordance with the instructions in AR 755-15.

CHANGE

No. 3

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
Washington, DC, 27 February 1984

**OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT,  
GENERAL SUPPORT, AND DEPOT MAINTENANCE MANUAL  
RADIO TERMINAL SET AN/MRC-69(V)  
(NSN 5820-00-889-3884)**

TM 11-5820-204-15, 23 July 1965, is changed as follows:

1. Title of the manual is changed as shown above.
2. New or revised material is indicated by a vertical bar in the margin of the page.
3. Added or revised illustrations are indicated by a vertical bar adjacent to the illustration identification number.
4. Remove old pages and insert new pages as indicated below.

*Remove pages*

*Insert pages*

1 through 4 .....	1 through 4
47 through 60 .....	47 through 60
79 through 83/(84 blank) .....	79 through 83/(84 blank)

5. File this change sheet in front of the publication.

\*This change supersedes TM 11-5820-204 ESC, 22 May 1969.

By Order of the Secretary of the Army:

Official:

**JOHN A. WICKHAM JR.**  
*General, United States Army*  
*Chief of Staff*

**ROBERT M. JOYCE**  
*Major General, United States Army*  
*The Adjutant General*

**DISTRIBUTION:**

To be distributed in accordance with DA Form 12-51A-1, Operator Maintenance requirements for AN/MRC-69.

## TECHNICAL MANUAL

No. 11-5820-204-15

HEADQUARTERS,  
DEPARTMENT OF THE ARMY  
WASHINGTON, D. C., 20315, 23 July 1965

**OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT,  
GENERAL SUPPORT, AND DEPOT MAINTENANCE MANUAL  
RADIO TERMINAL SET AN/MRC-69(V)  
(NSN 5820-00-889-3884)**

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\*This manual supersedes TM 11-5820-204-15, 10 September 1959, including C2, 2 August 1961; C3, 17 May 1962, C5, 7 May 1963; and TM 11-5820-204-25P, 25 May 1964.

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## CHAPTER 1

### INTRODUCTION

#### Section I. GENERAL

##### 1-1. Scope

a. This manual describes Radio Terminal Set AN/MRC-69(V) (fig. 1-1) and covers its installation, operation, functioning, and maintenance. It also includes instructions for installing components not provided as part of Shelter, Electrical Equipment S-178(\*)/MRC-69(V). Except for the S-178(\*)/MRC-69(V) and its components, communication equipment components of the AN/MRC-69(V) are covered in detail in their respective technical manuals (appx I).

b. Official nomenclature followed by (\*) is used to indicate all models of the equipments covered in this manual. Thus, Shelter, Electrical Equipment S-178(\*)/MRC-69(V) represents Shelters, Electrical Equipment S-178/MRC-69(V), S-178A/MRC-69(V), S-178B/MRC-69(V), S-178C/MRC-69(V), S-178D/MRC-69(V), and S-178E/MRC-69(V).

##### 1-2. Consolidated Index of Army Publications and Blank Forms

Refer to the latest issue of DA Pam 310-1 to determine whether there are new editions, changes or additional publications pertaining to the equipment.

##### 1-3. Maintenance Forms, Records, and Reports

a. *Reports of Maintenance and Unsatisfactory Equipment.* Department of the Army forms and procedures used for equipment maintenance will be those prescribed by TM 38-750, The Army Maintenance Management System.

b. *Report of Packaging and Handling Deficiencies.* Fill out and forward SF 364 (Report of Discrepancy (ROD)) as prescribed in AR 735-11-2/DLAR 4140.55/NAVMATINST 4355.73A/AFR 400-54/MCO 4430.3F.

c. *Discrepancy in Shipment Report (DISREP) (SF 361).* Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-38/NAVSUPINST 4610.33C/

AFR 75-18/MCO P4610.19D/DLAR 4500.15.

##### 1-3.1. Reporting Errors and Recommending Improvements

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) direct to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: DRSEL-ME-MP, Fort Monmouth, New Jersey 07703. In either case, a reply will be furnished direct to you.

##### 1-3.2. Reporting Equipment Improvement Recommendations (EIR)

If your radio terminal set needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design. Put it on an SF 368 (Quality Deficiency Report). Mail to Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: DRSEL-ME-MP, Fort Monmouth, New Jersey 07703. We'll send you a reply.

##### 1-3.3. Administrative Storage

Administrative Storage of Equipment issued to and used by Army activities will have preventive maintenance performed in accordance with the PMCS charts before storing. When removing the equipment from administrative storage the PMCS should be performed to assure operational readiness. Disassembly and repacking of equipment for shipment or limited storage are covered in chapter 6 and TM 740-90-1.

##### 1-3.4. Destruction of Army Electronics Materiel

Destruction of Army electronics materiel to prevent enemy use shall be in accordance with TM 750-244-2.

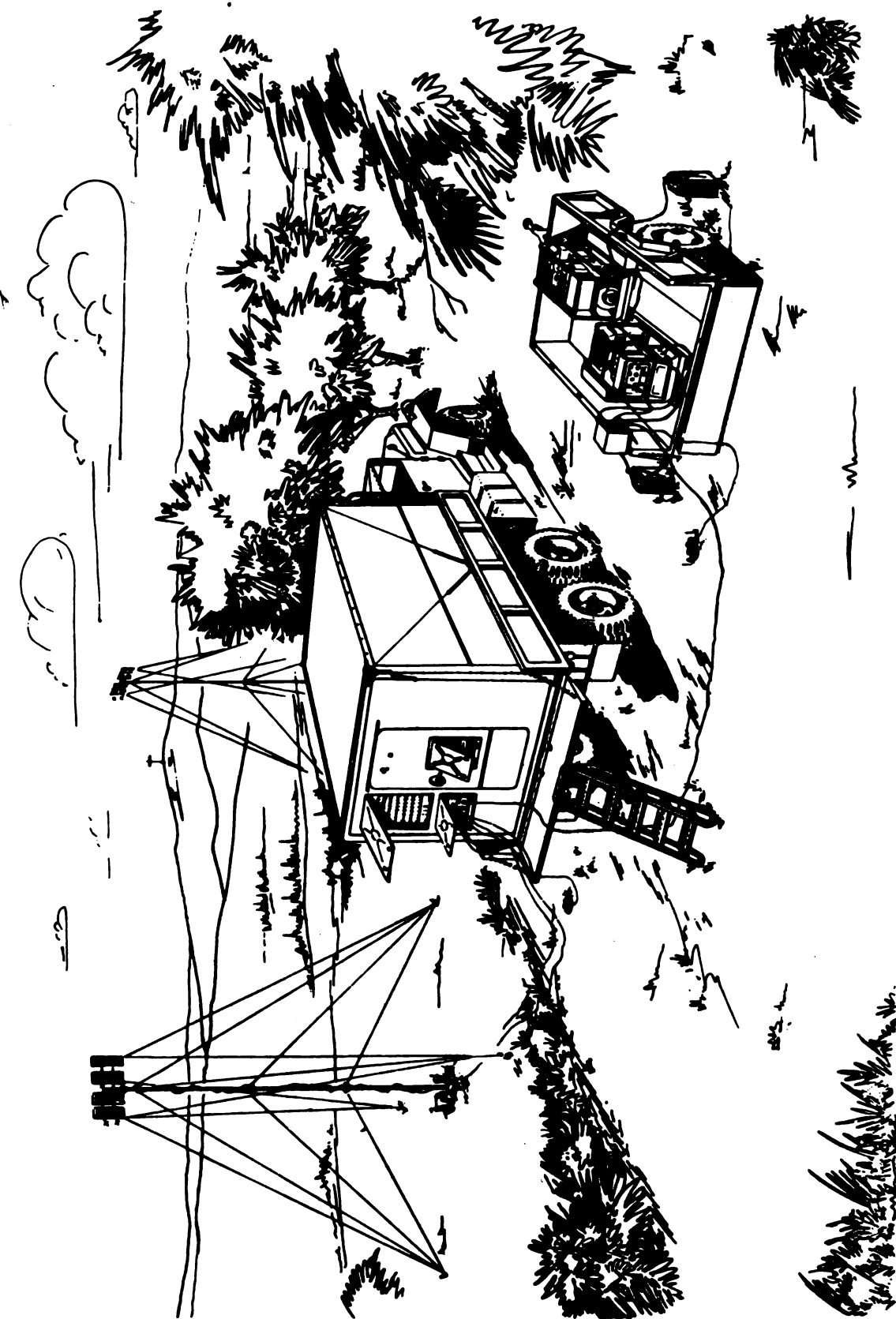


Figure 1-1. Radio Terminal Set AN/MRC-69(V) and power unit.

## Section II. DESCRIPTION AND DATA

## 1-4. Purpose and Use

a. Radio Terminal Set AN/MRC-69(V) is an air- or vehicular-transportable radio relay-carrier terminal set. The AN/MRC-69(V) is used to provide trunking in a division area of an area-type communications system. The AN/MRC-69(V) may be arranged to provide two 12-channel radio relay terminals (A, fig. 5-1), one 12-channel radio relay terminal and one landline carrier terminal (B, fig. 5-1), or it may be arranged as a radio repeater station and landline carrier terminal (C, fig. 5-1).

b. The letter (V) in the nomenclature (AN/MRC-69(V)) indicates that the radio transmission facility in the assemblage may use any one of six frequency bands in the very-high frequency (vhf) and ultrahigh frequency (uhf) range (para 1-5). The components required to provide the various frequency bands are listed under *radio equipment* in appendix III.

## 1-5. Technical Characteristics

## a. Power Requirements.

Source voltage ..... 115 volts, 60-cps  
single-phase.

Power consumption  
(maximum):

Intercommunication  
Station

LS-147C/FI ..... 32 watts.

Lights ..... 255 watts.

Exhaust blowers

(2 each at 125

watts) ..... 250 watts.

Electric space heater ..... 1,500 watts.

Terminal, Telephone

AN/TCC-7 ..... 790 watts.

Terminal, Telephone

An/TCC-50 ..... 500 watts.

Converters, Telegraph-

Telephone Signal

TA-182/U (24 each

at 40 watts) ..... 960 watts.

Radio facility ..... 2,200 watts.

Total ..... 6,487 watts.

## b. Carrier Facilities.

Terminal, Telephone

AN/TCC-7 ..... 1

Terminal, Telephone

AN/TCC-50 ..... 1.

Channels ..... 24 (12 per system).

Types of operation ..... 2-wire, 4-wire.

Order-wire circuits ..... 2 (1 per system).

Special service circuits:

4 kc to 20 kc ..... 6 channels (3 per system).

60 kc to 108 kc ..... 2 channels (1 per system).

12 kc to 60 kc ..... 2 channels (1 per system).

## c. Signaling.

Converter, Telegraph-

Telephone Signal

TA-182/U ..... 24 (12 per system).

Frequencies:

Telephone:

To switchboard .. 20 cps.

To line ..... 1,600 cps.

Order wire ..... 1,600 cps.

## d. Radio Facilities.

Radio sets' ..... 2 (1 per system).

Operating frequency

range ..... 50 to 1,875 mc.

Type of modulation ..... Frequency modulation.

Transmission range' ..... Line of sight (30 miles  
(48 kilometers) at  
ground level).

## e. Speech-Plus-Duplex Facilities.

Filter Assembly, Electrical

F-98/U ..... 12.

## f. Local Communication Facilities.

Telephone circuit

(TA-312/PT) ..... 1.

Intercommunication circuit

(LS-147C/FI) ..... 1.

## g. Weight.

S-178(\*)/MRC-69(V) ..... 3,400 pounds.

AN/MRC-69(V) ..... 7,500 pounds.

## h. Dimensions (outside).

Length ..... 138 in.

Width ..... 80 in.

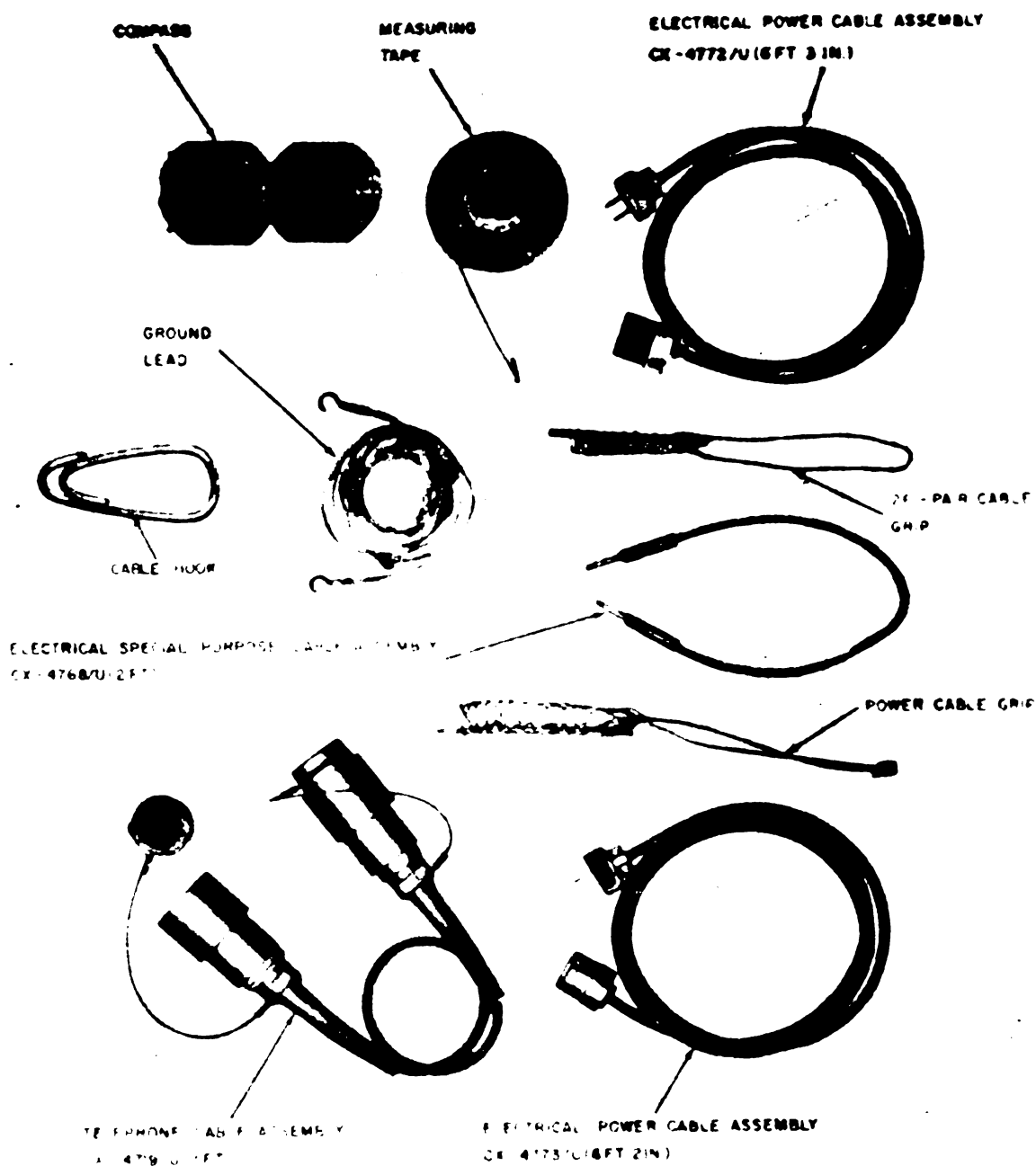
Height ..... 77-1/2 in.

## 1-6. Components of AN/MRC-69(V)

The basic issue items list (appx III) lists the components that comprise a complete AN/MRC-69(V).

<sup>1</sup>Components required are listed under *radio equipment* in appendix III.

<sup>2</sup>Approximate values range varies with type of terrain and atmospheric conditions.



TM 11-5820-204-15-2

Figure 1-2. Shelter, Electrical Equipment S-178(\*)/MRC-69(V), Equipment required for siting and operation.

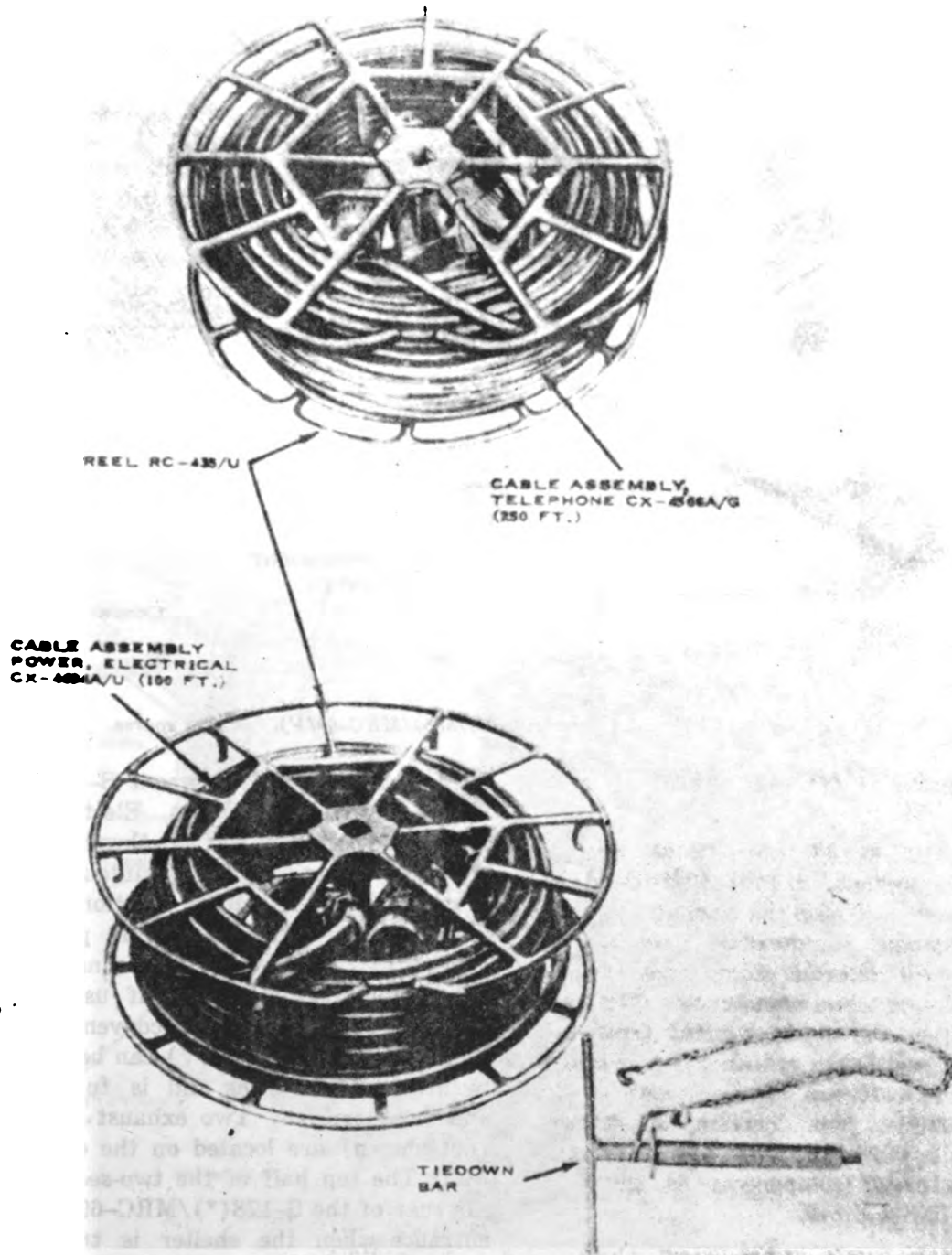


Figure 1-3. Shelter, Electrical Equipment S-178(\*)/MRC-69(V), cable assemblies and reels.

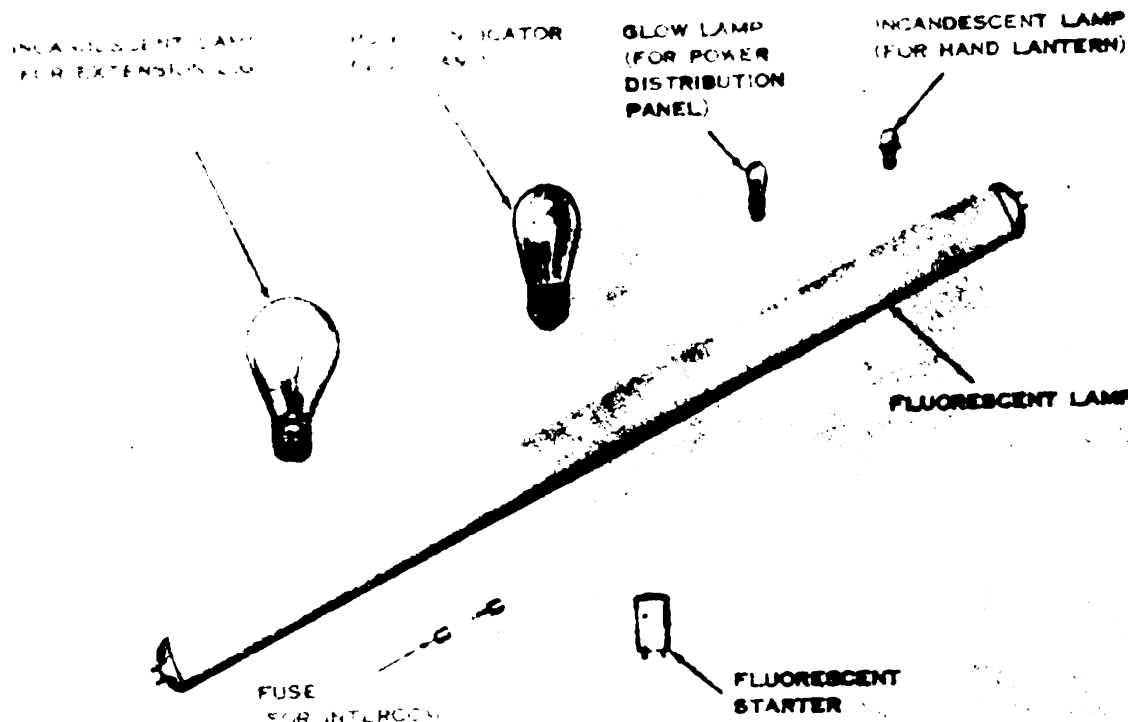


Figure 1-4. Shelter, Electrical Equipment S-178(\*)/MRC-69(V), running spares.

### 1-7. Description of AN/MRC-69(V) (fig. 1-5)

The AN/MRC-69(V) consists of Shelter, Electrical Equipment S-178(\*)/MRC-69(V) (para 1-8), which houses the various communication equipment components listed in appendix III. All external connections (cables, field wire, and antenna transmission lines) are made in either the signal binding posts box or the signal and power entrance box. Figures 1-8, 1-9, and 1-10 are interior views of the AN/MRC-69(V). The location of interior components is shown in figure 6-1. A description of the major components is given in paragraphs 1-8 and 1-9.

### 1-8. Description of S-178(\*)/MRC-69(V)

**a. General.** The S-178(\*)/MRC-69(V) (fig. 6-1) is an electrical equipment shelter modified to accommodate the equipments that comprise an AN/MRC-69(V) (appx III).

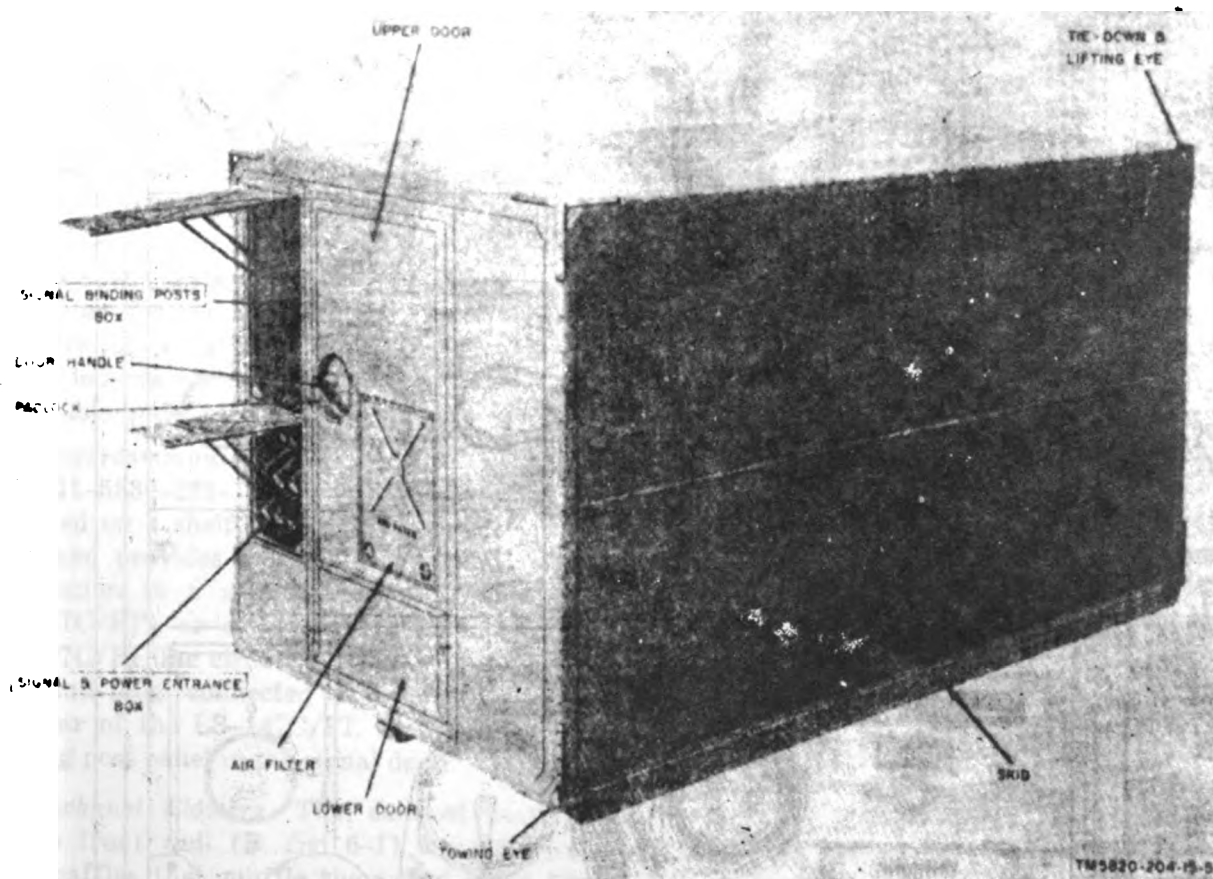
Shelter, Electrical Equipment S-178/MRC-69(V) is similar to Shelters, Electrical Equipment S-178A/MRC-69(V) through S-178E/MRC-69(V) except for maintenance repair parts and the mounting locations of minor components. Wall brackets are provided for storage of B- and C-band antenna assemblies. Other antenna assemblies, if used, must be stored or tied down in any convenient manner. The S-178(\*)/MRC-69(V) can be transported by helicopter or truck and is fully insulated and weatherproof. Two exhaust blower vents (not shown) are located on the outside front wall. The top half of the two-section door at the rear of the S-178(\*)/MRC-69(V) permits entrance when the shelter is truck-mounted and the tailgate is up.

**b. Lighting.** Six ceiling-mounted, 20-watt fluorescent lamps provide lighting for the S-178(\*)/MRC-69(V) (fig. 6-1). A neon lamp is mounted in the power duct adjacent to the

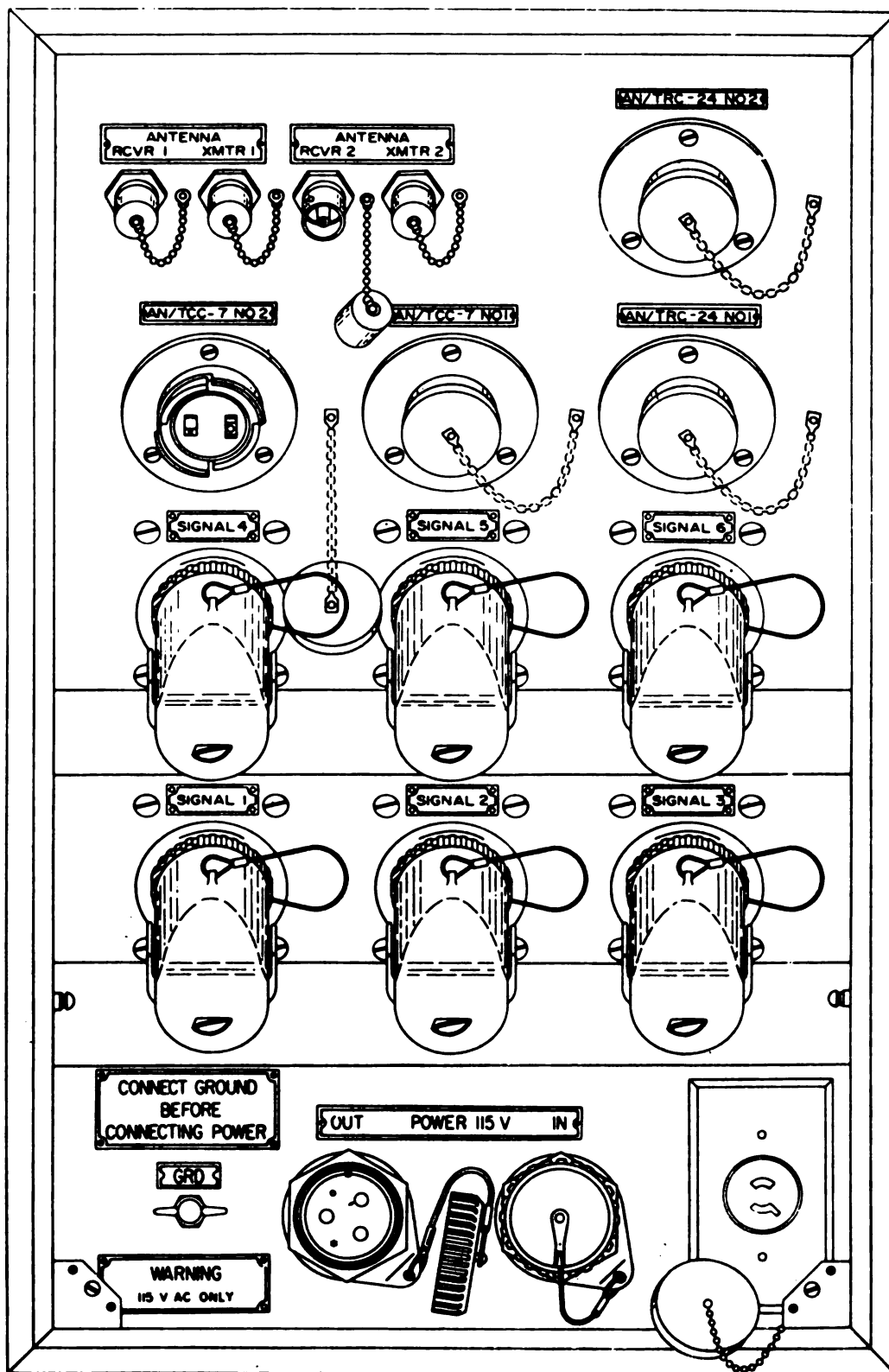
door. Blackout circuitry provides control of illumination when the AN/MRC-69(V) is operating under blackout conditions.

*c. Power Wiring.* Watertight receptacles in the signal and power entrance box (*d* below) provide for connecting the AN/MRC-69(V) to an alternating current (ac) power source. The ac power is routed through circuit breakers in the power distribution panel (*f* below) to the equipment power duct receptacles (fig. 6-1). Signal connections are made at the 26-pair receptacles in the signal and power entrance box or at the binding posts in the signal binding posts box (*e* below).

*d. Signal and Power Entrance Box* (fig. 1-6). The signal and power entrance box on the exterior rear wall (fig. 1-5) contains receptacles to connect power cables, spiral-four cables, 26-pair cables, and antenna transmission lines. The 26-pair receptacles are connected in parallel with the binding posts in the signal binding posts box. The power and signal entrance box cover is equipped with folding side panels for weather protection and is secured with captive-screw type fasteners. Access to the wiring side of the box is provided by a removable power entrance panel cover, secured with captive fasteners, inside the shelter facility.



**Figure 1-5. Shelter, Electrical Equipment S-178(\*)/MRC-69(V), typical exterior appearance.**



TM 11-5820-204-15-6

Figure 1-3. Signal and power entrance box, cover removed.



*e. Signal Binding Posts Box* (fig. 1-7). The signal binding posts box on the exterior rear wall (fig. 1-5) contains 149 pairs of binding posts. All binding posts, except the A and B, SPECIAL SERVICE system 1 and 2, and the order-wire binding posts are connected in parallel to contacts of the 26-pair cable receptacles SIGNAL 1 through SIGNAL 6 and may be used in place of the 26-pair cable receptacles for signal connections to the AN/MRC-69 (V). The signal binding post box cover has folding side panels for weather protection and is secured with captive-screw type fasteners. Access to the wiring side of the box is provided by a removable cover, secured with captive fasteners, inside the shelter facility.

*f. Power Distribution Panel* (fig. 3-1). The power distribution panel is mounted on the front wall (fig. 6-1) and contains a voltmeter, a current transformer (not shown), an ammeter, a MAIN circuit breaker, an OVERLOAD circuit breaker, and 12 individual circuit breakers. Glowlamps are associated with each power distribution circuit breaker, and they glow when the breakers are at ON.

*g. Electric Space Heater* (C, fig. 6-1). The electric space heater contains a heating element and a fan for air circulation. Operating controls are located at the top of the heater; horizontal louvers on the front of the heater are adjustable to deflect the airstream.

*h. Intercommunication Station. LS-147C/FI* (TM 11-5830-221-12). The LS-147C/FI is mounted on a shelf on the front wall (B, fig. 6-1) and provides two-way, nonprivate communication in a system consisting of other LS-147C/FI's or equivalent equipments. The LS-147C/FI line circuit is extended through a cord and plug, connected to binding posts at the rear of the LS-147C/FI, to the jack and binding post panel in the signal duct.

*i. Exhaust Blowers.* The exhaust blowers on the front wall (B, fig. 6-1) are equipped with baffles that muffle the sound when the blowers are turned on. Lighttight vents, equipped with hinged covers, provide exhaust access to the outside of the S-178(\*)/MRC-69(V).

*j. Clock.* An 8-day, luminous-dial, 24-hour clock is mounted on the front wall. A knob on the left-hand side is used for winding and setting the clock.

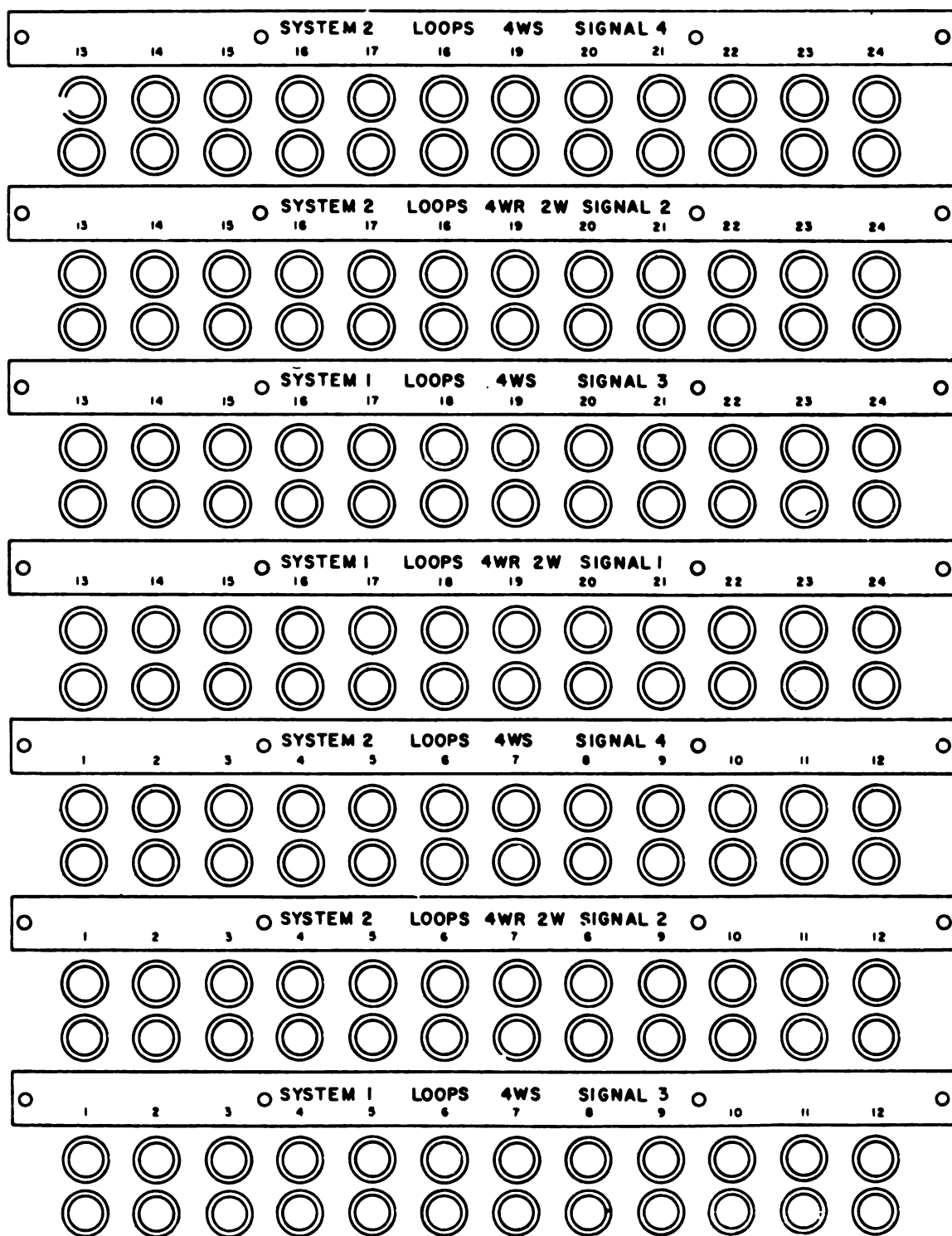
*k. Patch Panel* (fig. 3-2). The patch panel is mounted on the front wall and consists of six jack strips containing a total of 132 jacks. The patch panel is provided for patching filters into the systems and interconnecting equipments, as needed.

*l. Jack and Binding Post Panel.* The jack and binding post panel is mounted below the patch panel (B, fig. 6-1). Two pairs of binding posts (A and B) and four jacks (SIG 1 PAIR 25 and PAIR 26 and SIG 2 PAIR 25 and PAIR 26) are mounted on the panel. The binding posts provide for field wire connections inside the S-178(\*)/MRC-69(V); two of the jacks are used for extending the telephone and intercommunication circuits to correspondingly numbered binding posts or 26-pair cable receptacle pins on the exterior of the shelter facility.

*m. Compass and Steel Tape* (fig. 1-2). The 100-foot steel tape and compass are stored in a storage cabinet, and are used during antenna erection and orientation procedures (TM 11-5820-287-20 or TM 11-5820-461-20.)

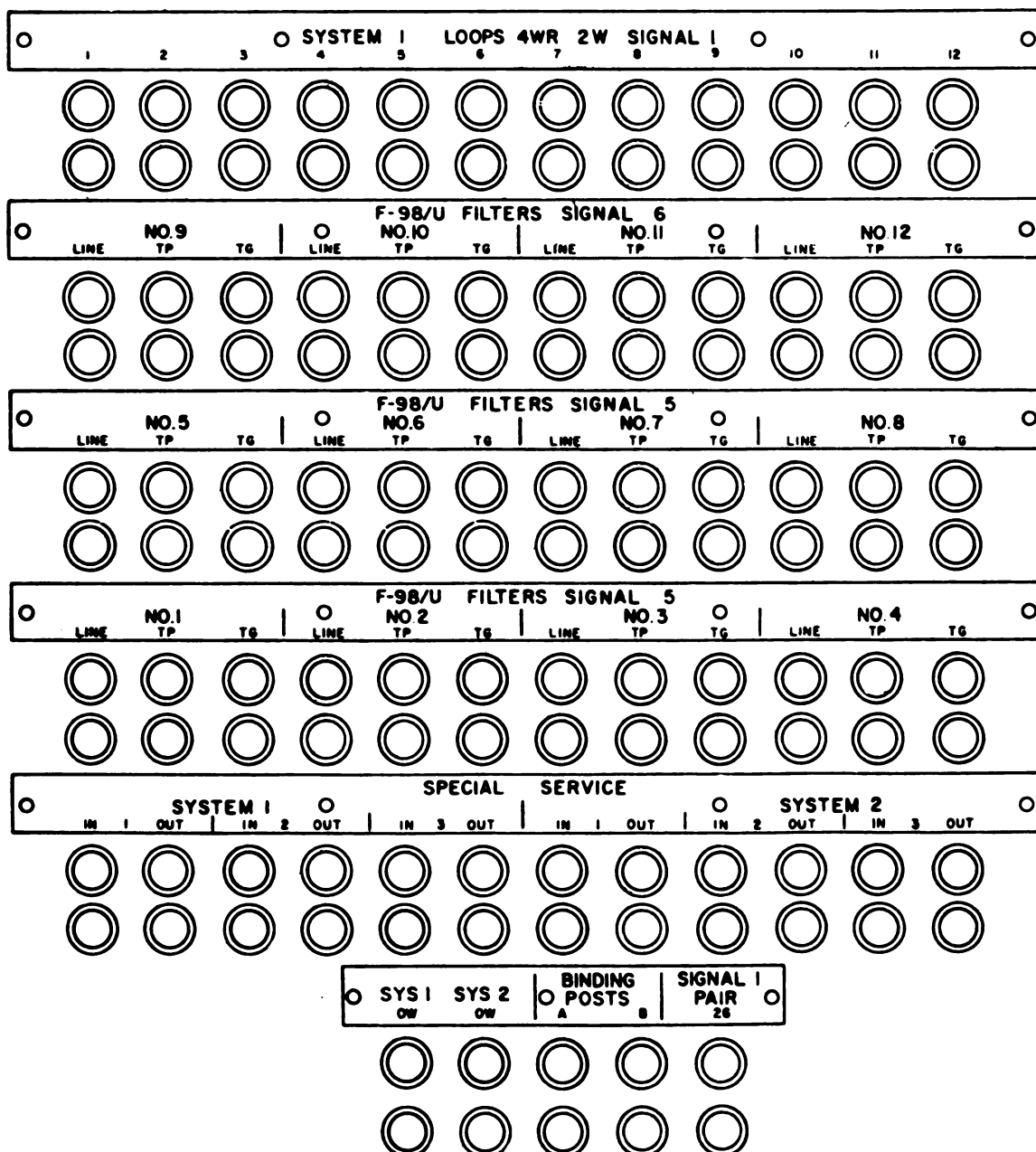
*n. Interconnecting Cables.*

- (1) *Cable Assembly, Power, Electrical CX-4694A/U and Reel RC-435/U* (fig. 1-3). The CX-4694A/U (power cable) is wound on a reel and secured with the tiedown bar to the floor of the shelter (fig. 6-1). It is a 100-foot, three-conductor cable with a watertight power connector at each end.
- (2) *Cable Assembly, Telephone CX-4566 A/G (250 ft)* (fig. 1-3). The 26-pair cable is wound on Reel RC-435/U and secured to the floor of the S-178(\*)/MRC-69(V). It is 250 feet long and is equipped with a 26-pair connector at each end.
- (3) *Cable Assembly, Telephone CX-4719/U (3 ft)* (fig. 1-2). This cable consists of 3 feet of spiral-four cable with a spiral-four connector at



TM5820-204-15-7 (1)

Figure 1-7<sup>1</sup>. Signal binding posts box, cover removed, part 1 of 2.



TM5820-204-15-7 (2)

Figure 1-7<sup>3</sup> Signal binding posts box, cover removed, part 2 of 2.

each end. It is used to connect a telephone terminal and a radio set together by interconnecting spiral-four receptacle AN/TCC-7 NO. 1 or AN/TCC-7 NO. 2 to AN/TRC-24 NO. 1 or AN/TRC-24 NO. 2 on the signal and power entrance box. This cable is stored in the storage cabinet.

- (4) *Duct spiral-four cable.* The two spiral-four cables used to connect the receiver of the radio set to the signal and power entrance box (AN/TRC-24 NO. 1 and NO. 2) are installed in the signal duct. Each cable consists of WF-8/G spiral-four cable with a spiral-four connector at one end and prepared leads at the other.
- (5) *Duct coaxial rf cable.* Four special coaxial cables are used to connect the receivers and transmitters of the radio sets to the signal and power entrance box (ANTENNA RCVR 1 XMTR 1 and ANTENNA RCVR 2 XMTR 2). Each cable consists of RG-8/U coaxial cable and a coaxial connector at each end. These cables are installed in the signal duct.
- (6) *Electrical Power Cable Assembly CX-4773/U (6 ft) (fig. 1-2).* This cable is a two-conductor power cord provided so that the receiver may be completely removed from its mounting rack for repairs and adjustments. The cable has a standard plug at one end and a twistlock receptacle at the other. It is stored in the storage cabinet.
- (7) *Electrical Power Cable Assembly CX-4772/U (6 ft 3 in.) (fig. 1-2).* This cable is provided so that Power Supply PP-685/TRC may be completely removed from its mounting rack for repairs and adjustments. The cable has a standard two-conductor plug at one end and a three-conductor twistlock receptacle at the other. It is stored in the storage cabinet.

- (8) *Electrical Special Purpose Cable Assembly CX-4768/U (2 ft) (fig. 1-2).* This cable is a two-conductor patching cord with a telephone plug on each end. It is used at the patch panel for patching in filters when required.

*o. Distribution Box J-1077A/U.* The J-1077A/U, mounted on, or adjacent to, the rear door, is equipped with 26 pairs of binding posts, connected in parallel with two 26-pair receptacles. The J-1077A/U can be used to connect field wires into a 26-pair cable.

## 1-9. Description of Major Components of AN/MRC-69(V)

*a. Radio Equipment.* (TM 11-5820-287-10). The radio equipment components, less their carrying cases, are mounted in equipment racks along the side walls of the shelter facility and in storage brackets on the walls (A and C, fig. 6-1). Only B- and C-band components are shown. The radio facilities are used for multi-channel carrier circuits (system 1 and system 2) when the use of spiral-four cable or field wire is not practical, or as radio repeaters (C, fig. 5-1).

*b. Terminal, Telephone AN/TCC-7.* The AN/TCC-7 (TM 11-2139-10) is a carrier telephone terminal that provides 12 two-wire or four-wire channels. The components, less their carrying cases, are mounted in the system 1 equipment racks along the roadside wall of the shelter facility (A, fig. 6-1).

*c. Terminal, Telephone AN/TCC-50.* The AN/TCC-50 (TM 11-2139-10) is similar to the AN/TCC-7 except that it does not contain a 600-volt power supply, as provided in the AN/TCC-7, for use with the unattended repeaters located along the spiral cable. The components, less their carrying cases, are mounted in the system 2 equipment racks along the curbside wall of the shelter facility (C, fig. 6-1).

*d. Converters, Telegraph-Telephone Signal TA-182/U.* The TA-182/U (TM 11-5805-247-10) is a voice-frequency (vf) ringer that provides in-band signaling over a telephone carrier channel. Twelve vf ringers, mounted

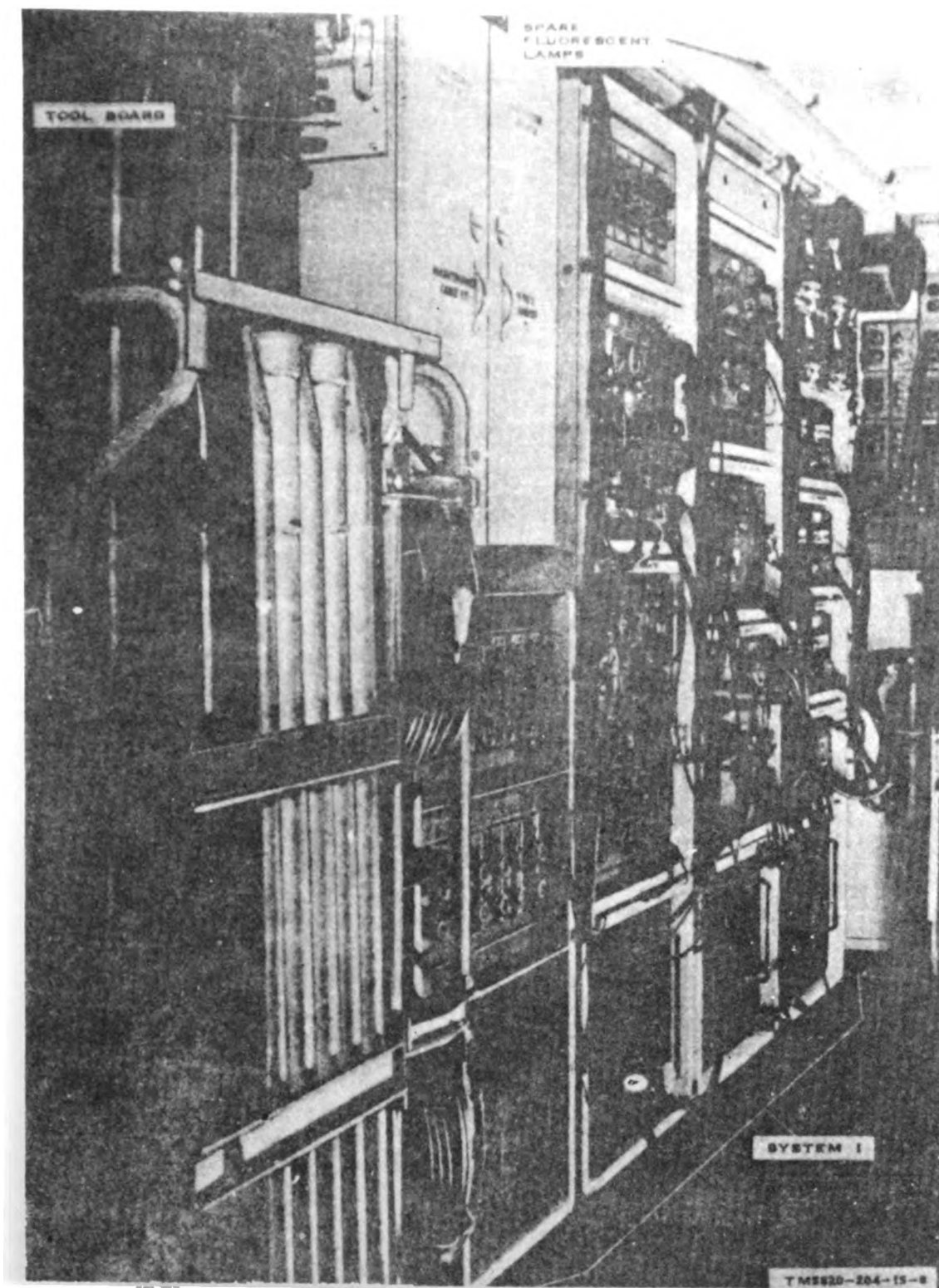
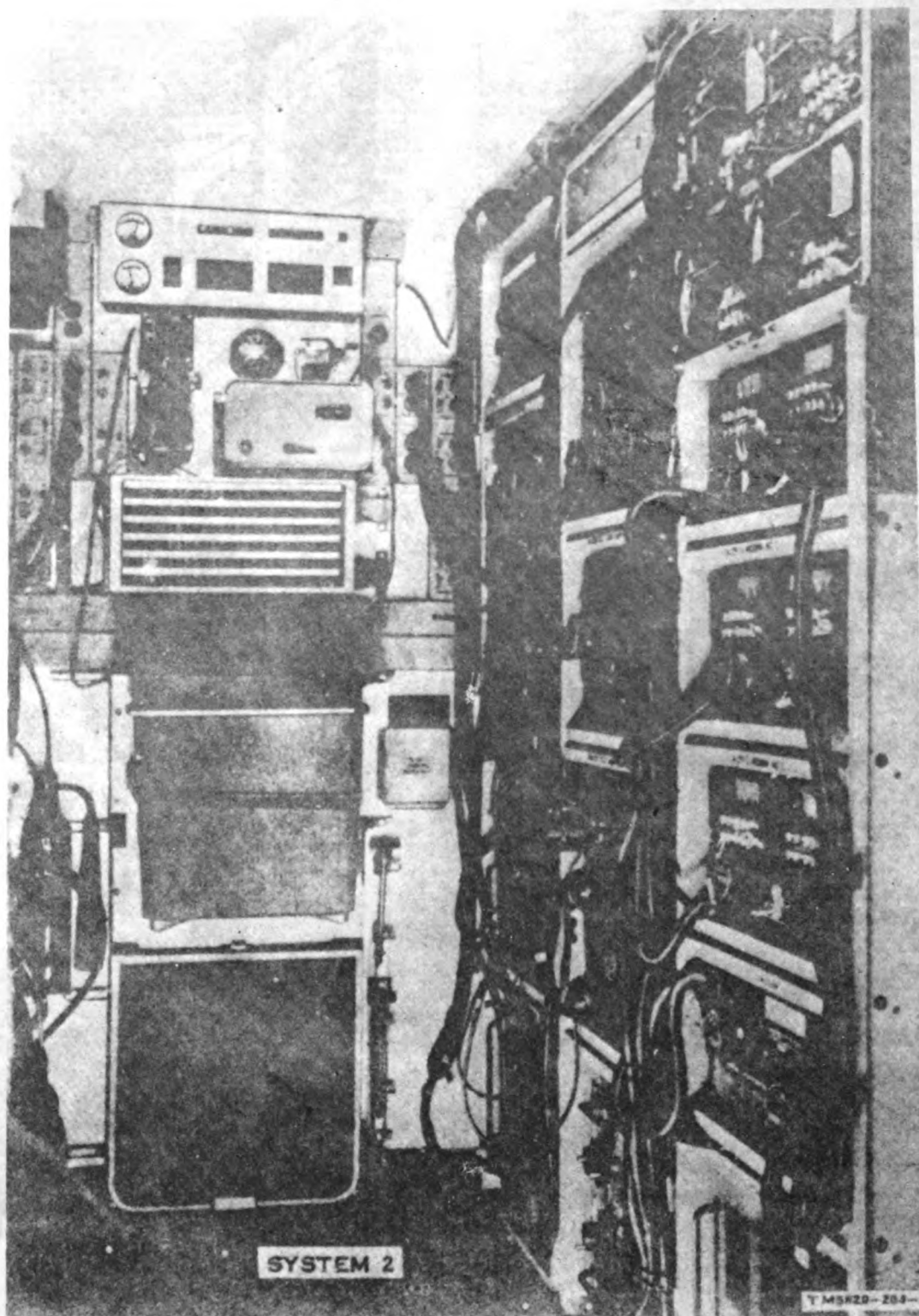
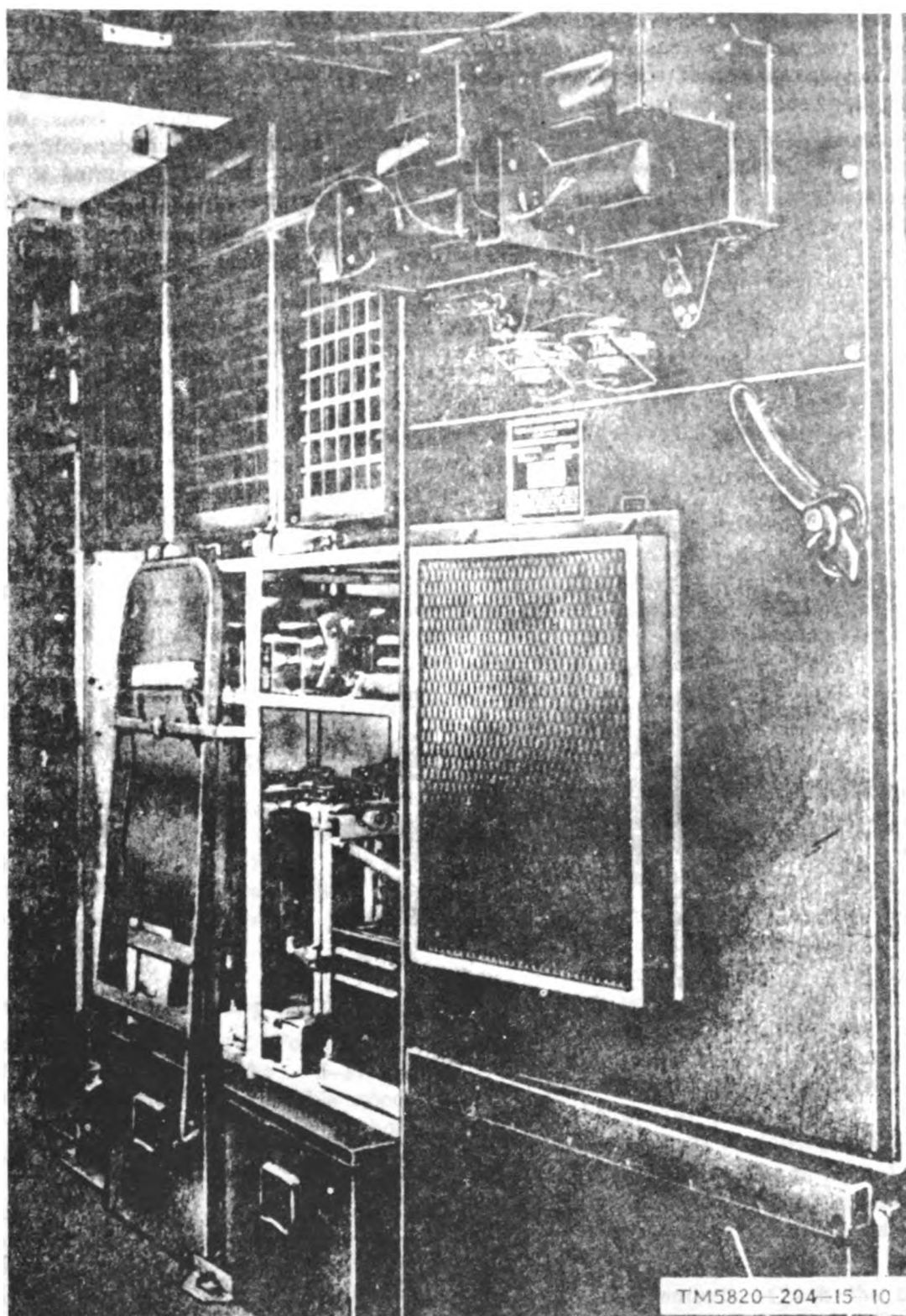


Figure 1-8. Radio Terminal Set AN/MRC-69(V), interior roadside wall.



*Figure 1-9. Radio Terminal Set AN/MRC-69(V), interior front wall and part of curbside wall.*





*Figure 1-10. Radio Terminal Set AN/MRC-69(V), interior of door and part of curbside wall.*

in two equipment racks, are provided for system 1 and twelve are mounted in similar equipment racks for system 2 (fig. 6-1). Two v/ringers, provided as spares, are stored in one of the antenna retaining racks.

e. *Telephone Set TA-312/PT.* The TA-312/PT (TM 11-2155) is provided for intra-area communication. The telephone set, less its canvas case, is arranged for local-battery op-

eration, and is mounted above the patch panel (B, fig. 6-1).

f. *Filter Assembly, Electrical F-98/U.* The F-98/U (TM 11-5805-254-15) is a filter assembly used, on a patch-in basis, to provide speech-plus-duplex circuit capabilities. Twelve filters are secured and mounted to the front wall of the shelter facility below the patch panel.



## CHAPTER 2

### INSTALLATION

#### Section I. INSTALLATION OF EQUIPMENT

*Note:* If the AN/MRC-69(V) is received with its major components installed and connected, unpack and check the equipment (para 2-2a, b, and c) and proceed to paragraph 2-3 through 2-9.

#### 2-1. General

When the S-178(\*)/MRC-69(V) is received, refer to *a* through *h* below for the order of equipment installation and the applicable paragraph references.

- a.* Unpack and check the equipment (para 2-2).
- b.* Install the AN/TCC-7 and the AN/TCC-50 (para 2-3).
- c.* Install the radio facility components (para 2-4).
- d.* Install the miscellaneous radio facility components (para 2-5).
- e.* Install the TA-182/U's (para 2-6).
- f.* Install the F-98U's (para 2-7).
- g.* Install the TA-312/PT (para 2-8).
- h.* Store the antenna components (para 2-9).

#### 2-2. Unpacking and Checking

*a. Packing Data* (fig. 2-1). For shipment, the AN/MRC-69(V) (or the S-178(\*)/MRC-69(V)) is packed in a reusable wooden crate. The S-178(\*)/MRC-69(V) is anchored to eyebolts in the skid base of the crate and is blocked at the sides and ends with lumber. The skid base has side entries for handling with a forklift. The dimensions of the crate are 155 by 93 by 94 inches, the volume is 874 cubic feet, and the weight is approximately 8,000 pounds.

*b. Removal of Contents* (fig. 2-1). Select a location where the equipment may be unpacked without exposure to the elements.

**Caution:** Do not thrust any tools into the interior of any pack or package.

- (1) Unfasten the lag bolts with wrenches and remove the top, end, and side assemblies from the crate base.
- (2) Detach the tiedowns from the eyebolts in the base of the crate. When the cables or tiedown rods are used for anchoring, loosen the turnbuckles.
- (3) Remove wood blocking from the ends and sides of the S-178(\*)/MRC-69(V).

**Caution:** Be careful when handling tools, because the aluminum skin of the S-178(\*)/MRC-69(V) can be easily damaged.

- (4) Remove the shelter facility from the base crate. Use overhead lifting equipment whenever available. If overhead lifting equipment is not available, remove the headers from the crate base. Lift the shelter facility from both ends with forklifts, or drag the S-178(\*)/MRC-69(V) from the crate base by the towing eyes.
- (5) Forward the crate to a local storage area, if practicable. The crate may be reused for shipment of similar items.

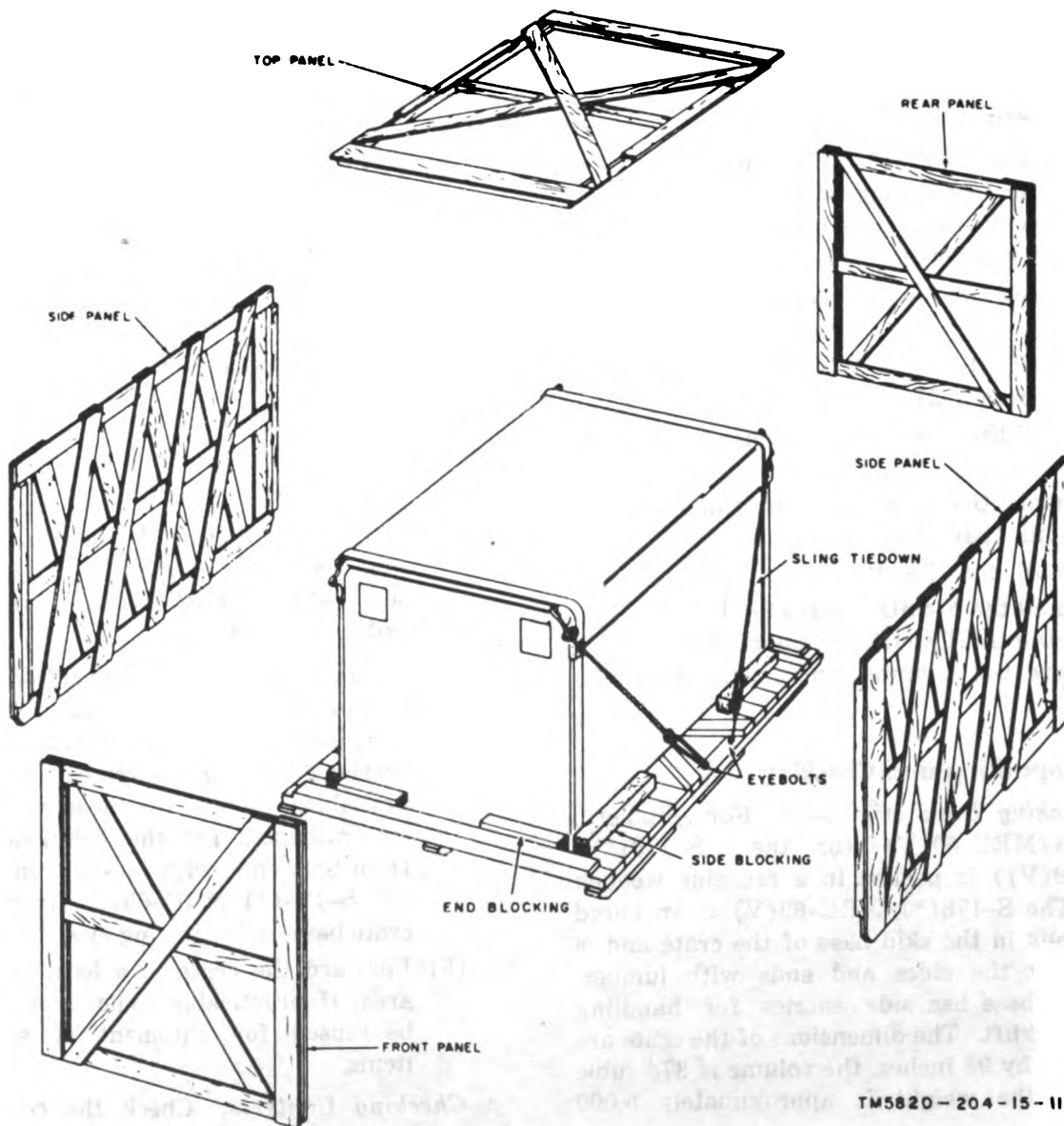
*c. Checking Contents.* Check the contents of the S-178(\*)/MRC-69(V) against the

packing list. If the packing list is not available, use the basic issue items list (appx III) to check the equipment which probably was packed.

d. *Unpacking and Checking Major Components.* When the major components for the AN/MRC-69(V) are received in packing cases other than their own transit cases, follow the unpacking instructions given in the appropriate technical manuals (appx I). After unpack-

ing, check the equipment against the packing lists in the containers, if available. The tables of components or the basic issue items list in the appropriate technical manuals can be used, when packing lists are not available, to check the items which were probably packed.

*Note:* To provide light in the shelter facility, perform the preoperational procedures given in paragraph 2-19, 2-20, and 2-21.



TM5820-204-15-11

Figure 2-1. Typical packing diagram.

### 2-3. Installation of Terminals, Telephone AN/TCC-7 and AN/TCC-50

The components of the AN/TCC-7 are installed in the system 1 equipment racks (A, fig. 6-1); the components of the AN/TCC-50 are installed in the system 2 equipment racks (C, fig. 6-1). Remove the panels and rack frames of the telephone terminal components from their carrying cases before installing the components in the shelter facility equipment racks. Install the components as follows:

- a. Remove the cover from the carrying case by releasing the snap catches.
- b. Remove each panel from the rack frame (TM 11-2139-10).
- c. Insert the spring-release hook (fig. 2-2) through the front hook of one of the four springs that secure the rack frame to the carrying case.
- d. Pull and turn the retainer spring toward the outside of the carrying case.
- e. Release the retainer spring gently into the carrying case.
- f. Repeat the procedures given in c, d, and e above for the remaining retainer springs.
- g. Remove the rack frame from its carrying case.
- h. Position the rack frame in the shelter facility equipment rack.
- i. Insert the prong of the spring-release hook through the front hook of the retainer spring. Pull, guide, and attach the front hook of the retainer spring to the hook on the shelter facility equipment rack. Repeat this operation until all four retainer springs are firmly secured.
- j. Remove any cables connected to the front panel or chassis of the equipment.
- k. Place the panel in the rack, push it in, and secure it.

### 2-4. Installation of Radio Facility Components

a. In this manual, the components of the radio facilities are divided into two main categories: Fixed and removable. The fixed compo-

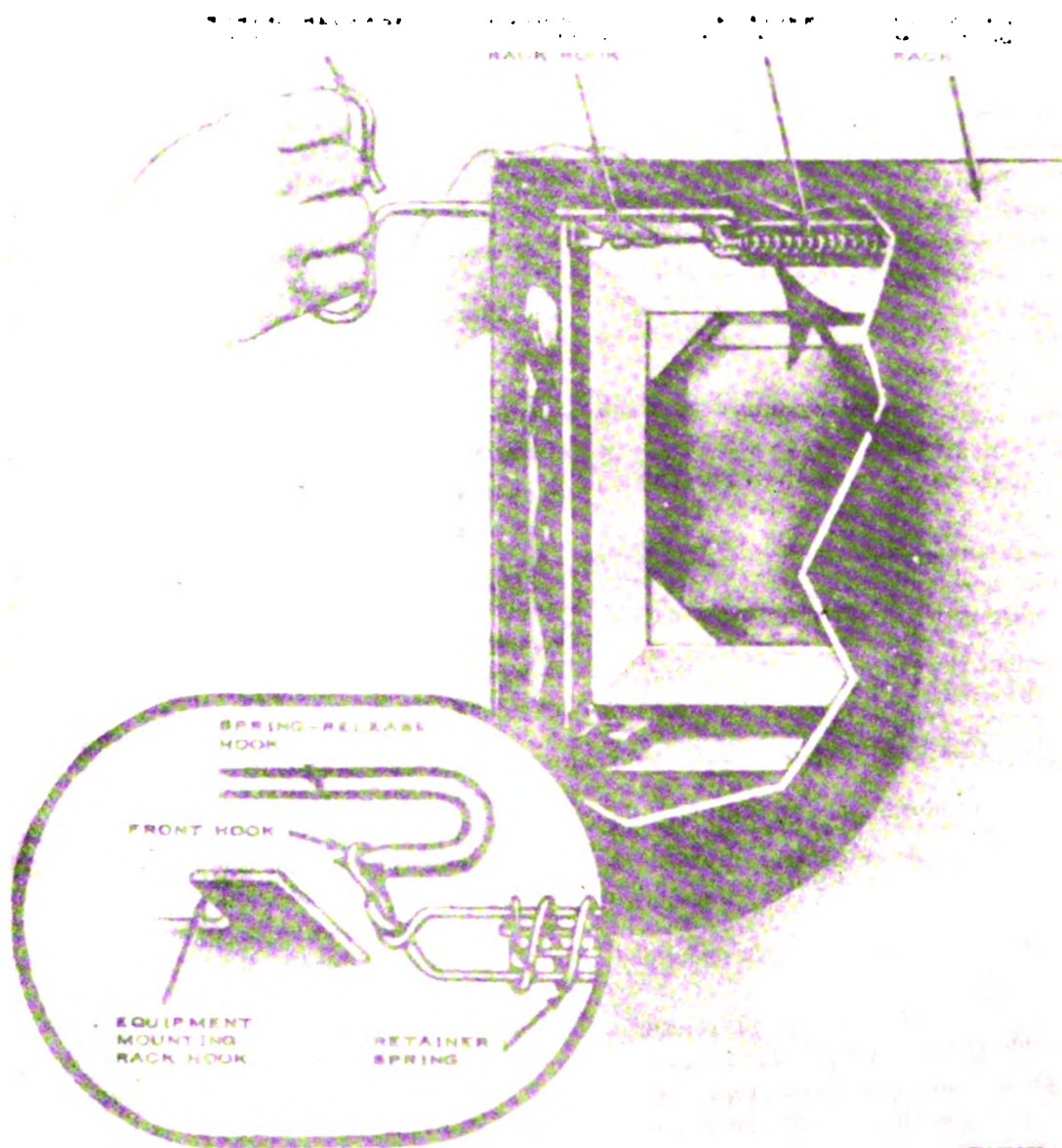
nents are installed initially and are not removed (during operation) except for repairs or maintenance. The removable components are those removed from their storage mountings inside the shelter facility for use in operation outside the shelter facility. Refer to the general installation instructions in TM 11-5820-287-10.

b. Remove the radio facility panels from their carrying cases (TM 11-5920-287-10) and install them in the shelter facility equipment racks of system 1 and system 2. Follow the procedures given in paragraph 2-3a through k to install the components of the radio facilities.

### 2-5. Installation of Miscellaneous Radio Facility Components

The components listed below are frequently removed from their storage locations for use during operation and later reinstalled. Install the components as follows:

- a. *Wattmeter ME-82/U* (A, fig. 6-1).
  - (1) Remove the wattmeter from Accessories Case CY-1343/TRC (TM 11-5820-287-10).
  - (2) Open the door of the storage cabinet and release the steel strap on the wattmeter holder.
  - (3) Place the wattmeter in the holder, replace the steel strap, and turn the strap fastener.
- b. *Maintenance Cable Kit* (A, fig. 6-1).
  - (1) Remove the maintenance cable kit from Accessories Case CY-1343/TRC.
  - (2) Place the maintenance cable kit in its position in the storage cabinet.
- c. *Running Spares Drawers* (A and C, fig. 6-1). Install the two running spares drawers as follows:
  - (1) Remove the running spares drawers from Accessories Case CY-1342/TRC by releasing the captive fasteners (TM 11-5820-287-10).
  - (2) Place the running spares drawers in their proper position in the system 1 and system 2 equipment racks.
  - (3) Secure the captive fasteners to the equipment racks with a screwdriver.



TM 11-5820-204-15-12

Figure 2-2. Installation of equipment rack frame.

**d. Electrical Power Cable Assembly CX-2254/U (A, fig. 6-1).**

- (1) Remove two CX-2254/U's from their normal location on Cable Reel RC-405/TR (TM 11-5820-287-10).
- (2) Place the CX-2254/U's on the top shelf of the storage cabinet.

**e. Miscellaneous.** Transfer the components located in Accessories Case CY-1342/TRC to the storage section in the shelter facility as indicated in the chart below:

Quantity	Item	To
2	Handsets H-90/U	Storage cabinet
2	Radio Frequency Cable Assemblies CG-1031/U	Storage cabinet
1	Set of circuit labels	Storage cabinet
1	Spare incandescent lamp	Accessories and spares cabinet
1	Trouble lamp	Accessories and Spares cabinet
1	Screwdriver TL-458/U	Tool mounting board (A, fig. 6-1)

## 2-6. Installation of Converters, Telegraph-Telephone Signal TA-182/U

The 24 TA-182/U's are installed in the shelter facility equipment racks with their carrying cases removed. The two spare TA-182/U's are installed complete in the antenna dipole rack (C, fig. 6-1). Complete details for installing the TA-182/U and the two spares are given below. Follow the same procedures (except *g* through *i*) to install the other 23 TA-182/U's:

- a. Release the snap catches on the TA-182/U case and open the cover.
- b. Use a screwdriver and release the three captive fasteners on the front panel and remove the TA-182/U from its case.
- c. Insert the TA-182/U in the shelter facility equipment rack in the NO. 1 position (A and C, fig. 6-1).
- d. Remove the card, marked 1, from the accessories and spares cabinet. Mount it on the front panel of the TA-182/U in the upper right corner. Secure the TA-182/U panel in the compartment with the captive fasteners.
- e. Remove all spare fuses from the covers of the TA-182/U's and store them in the fuseholder and in the accessories and spares cabinet.
- f. Remove the instruction plates from the covers of two TA-182/U's and store them in the instruction plate holder (B, fig. 6-1).
- g. Release the fasteners on the retaining straps of the two spare TA-182/U mountings in the antenna dipole rack.
- h. Place two complete TA-182/U's in the mountings, place the retaining straps over them, and tighten the fasteners.

## 2-7. Installation of Filter Assembly, Electrical F-98/U

Install the F-98/U's (less their covers) behind the plate assembly on the front wall (B, fig. 6-1). To disassemble the plate assembly and install the F-98/U's, follow the procedures given below:

- a. Remove the wastepaper basket and table from the front plate.
- b. Remove the nuts that hold the front plate.

c. Remove the front plate and brackets from each stud.

d. Remove the nuts behind the brackets.

*Note:* The nuts behind the brackets are used to secure the brackets and the front plate during transit when the F-98/U's are not installed. When the F-98U's are installed, store these nuts in the accessories and spares cabinet.

e. Release the snap catches on the case of the 12 F-98/U's and remove the covers.

f. Position the two bottom F-98/U's in the mounting frame.

g. Replace the brackets on the studs.

h. Repeat the procedures given in *f* and *g* above for installing the 10 remaining F-98/U's.

i. Do not replace the front plate until the signal wiring has been connected (para 2-14).

## 2-8. Installation of Telephone Set TA-312/PT

a. Remove the TA-312/PT from its canvas carrying case and store the case.

b. Open the clamp on the TA-312/PT mounting bracket that is secured to the front wall of the shelter facility (B, fig. 6-1)

c. Place the TA-312/PT in the mounting bracket. The procedures for securing the TA-312/PT are evident upon inspection.

d. Connect the leads of the telephone connecting cord (Cord Assembly, Electrical CX-4695/U) to the LINE binding posts of the TA-312/PT.

## 2-9. Storage of Antenna Components for Transit

*Note:* The procedures below apply *only* to B- and C-band antenna. If other antennas are used, store them in any manner that is convenient, and that will prevent them from becoming damaged or damaging other components. The antenna components of the AN/MRC-69(V) are stored in mountings and retaining racks in the rear area of the shelter facility for convenience when moving the antenna components in and out of the AN/MRC-69(V).

a. *Antenna Reflector Supports AB-325/TRC* (C, fig. 6-1).

- (1) Remove the reflector supports from their carrying cases (Antenna Reflector Support Case CY-1387/TRC)

- (2) Unfasten and open the four retaining clamps of the reflector supports storage holder in the shelter facility.
- (3) Place one reflector support in the holder nearest the door as follows:
  - (a) Position the arms of the reflector support vertically.
  - (b) Face the single reflector mounting support shaft downward.
  - (c) Face the double reflector mounting support shaft with guy plates to the rear of the shelter facility.
  - (d) Place the reflector support in the holder.
  - (e) Close the two retaining clamps and turn the fasteners that secure the reflector support in its mounting.
- (4) Repeat the procedure given in (3) (a)-(e) above for installing the second reflector support in the holder except in (c) above. Face the double reflector mounting support shaft with the guy plates to the front of the shelter.

*b. Antenna Dipoles AT-413/TRC (C, fig. 6-1)*

- (1) Remove the C-band dipoles from their carrying cases (Antenna Case CY-1370/TRC).
- (2) Unfasten and remove the three retaining bars from the lower middle section of the antenna dipole retaining rack in the shelter facility.
- (3) Place the C-band dipoles upright into the allocated slot sections of the rack, extending sections at the top and parallel to the curbside wall. Each permits six C-band dipoles to be stored.
- (4) Replace the three retaining bars and secure the fasteners.

*c. Antenna Dipoles AT-412/TRC (C, fig. 6-1).*

- (1) Remove the B-band dipoles from their carrying cases (Antenna Case CY-1371/TRC), less sections Z.
- (2) Unfasten and remove the two retaining bars from the upper middle sec-

tion of the antenna dipole retaining rack in the shelter facility.

- (3) Place the B-band dipoles in the allocated slot sections of the rack as follows:
  - (a) Place the dipoles horizontally and parallel to the wall with the V-head of each positioned vertically.
  - (b) Arrange the dipole from the rear of the rack so that the V-head of the first B-band dipole is positioned toward the rear of the shelter facility.
  - (c) Arrange the second B-band dipole so that it is in the reverse position of the first.
  - (d) Install and arrange the other 10 B-band dipoles so that their V-heads are alternately positioned to the rear and front of the shelter facility.
- (4) Replace the two retaining bars and secure the fasteners.
- (5) Remove the sections of the B-band dipoles from the carrying cases.
- (6) Place the 48 sections in the four removable shelves with holding clips in the storage cabinet (A, fig. 6-1).

*d. Antenna Reflectors AT-414/TRC (C, fig. 6-1).*

- (1) Remove the reflectors from their carrying cases (Antenna Reflector Case CY-1385/TRC).
- (2) Unfasten and release the two clamp holders from the reflector lower storage channel mountings in the shelter facility.
- (3) Hold one folded reflector upright with the hinged side at the top.
- (4) Place the hinges up in the ceiling channels of the reflector storage mounting and slide the upright reflector to the rear of the channels.
- (5) Repeat the procedures given in (1) through (4) above for the second reflector, except place the hinges of the reflector in the lower storage channel mountings.
- (6) Follow the procedure given in (1) through (4) above for the remaining reflectors.

- (7) Replace the two clamp holders by gripping the edges of the last reflector and securing the fasteners.

*e. Miscellaneous Antenna Components.* Remove the antenna components from their original carrying cases and relocate them in the shelter as indicated in the chart below:

Quantity	Item	From	To
8	Guy MX-1483/G (75 ft	Antenna Reflector Support	Accessories Cases CY-1392/G
4	Reel assembly.	Cases CY-1387/TRC.	(C, fig. 6-1).
8	Anchor shackle with		
	2-in. ring.		
4	Reflector shackle.		
12	Rf cable clamp.		
2	Radio Frequency Cable	Antenna Case CY-1371/TRC.	Storage cabinet (A, fig. 6-1).
	Assembly CG-1042/U.		
2	Adapter UG-643/U.		
2	Radio Frequency Cable	Antenna Case CY-1370/TRC.	Storage cabinet (A, fig. 6-1).
	Assembly CG-1042/U.		
2	Adapter UG-643/U.		

*f. Accessories Cases CY-1392/G (C, fig. 6-1).*

- (1) Unfasten and remove the retaining clamp of the floor section of the antenna dipole rack.
- (2) Lift and place the bottom edge on one of the handle sides of an accessories case on the guides of the rack.
- (3) Push and slide the accessories case into position in one of the storage sections.
- (4) Repeat the procedures given in (2) and (3) above to install the second accessories case in the other storage section.
- (5) Replace the retaining clamp and secure the fastener.

*g. Mast Sections AB-332/G and Stake Carriers (A, fig. 6-1).*

- (1) Unfasten and remove the retaining bar from the storage rack holder.
- (2) Place the six mast section carriers upright in the holder, with the carrying handles facing toward the rear of the shelter facility.

- (3) Place the two stake carriers flush against the mast section carriers with the hammer side of the stake carrier toward the rear of the shelter facility.

- (4) Replace the retaining bar and secure the fasteners.

*h. Radio Frequency Cable Assembly CG-1030A/U and Cable Reel RC-404/TR (A, fig. 6-1).*

- (1) Remove all coaxial radiofrequency (rf) cables from four Cable Reels RC-404/TR.
- (2) Rewind the four coaxial rf cables on each of two Cable Reels RC-404/TR. Secure the web straps.
- (3) Unfasten and remove the upper and lower retaining bars from the storage rack.
- (4) Place one Cable Reel RC-404/TR in the upper section of the rack and the other in the lower.
- (5) Replace the retaining bars and secure the fasteners.

## Section II. EQUIPMENT CONNECTIONS

### 2-10. General

All the wiring required to interconnect the major components used with the AN/MRC-

69(V) is permanently installed in the signal duct and is appropriately tagged and prepared for connection. The signal schematic-wiring

diagram (fig. 6-3 and 6-4) can be used to supplement the information in the connection charts given in paragraphs 2-11 through 2-14. The equipment power receptacles are located in the power ducts and are designated by the associated equipment *type number*.

## 2-11. Terminals, Telephone AN/TCC-7 and AN/TCC-50

Interconnect the components of each telephone terminal as described in TM 11-2139-10. Perform the additional procedures given in *a* through *g* below.

*a.* Connect the black ground wire (signal duct) to the GND binding post on the JUNCTION PANEL.

*b.* Connect the spiral-four cable (from the signal duct) to the spiral-four receptacle TO CABLE on the JUNCTION PANEL (TM 11-2139-10).

*c.* Identify the three CHAN MODEM units by marking them 1, 2, and 3 from top to bottom.

*d.* Connect the cable-formed wiring from the signal duct to each CHAN MODEM as indicated in the following chart:

Cable marking	From cable-formed wiring		Connect to	
	Wire color		CHAN MODEM	Binding posts
	Serial No. 1 through 428 (Order No. 891-PP-57)	Serial No. 429 through 460 (Order No. 891-PP-57) and all subsequent equipments		
MOD 1, CH 1, 2W	Yellow and white	Blue and white	1, CHAN 1	2W-4WT
MOD 1, CH 1, 4W-R	Yellow and white	Blue and white	1, CHAN 1	4WR
MOD 1, CH 2, 2W	Orange and white	Orange and white	1, CHAN 2	2W-4WT
MOD 1, CH 2, 4W-R	Orange and white	Orange and white	1, CHAN 2	4WR
MOD 1, CH 3, 2W	Black and white	Green and white	1, CHAN 3	2W-4WT
MOD 1, CH 3, 4W-R	Black and white	Green and white	1, CHAN 3	4WR
MOD 1, CH 4, 2W	Pink or red and white	Brown and white	1, CHAN 4	2W-4WT
MOD 1, CH 4, 4W-R	Pink or red and white	Brown and white	1, CHAN 4	4WR
MOD 2, CH 1, 2W	Light brown and white	Slate and white	2, CHAN 1	2W-4WT
MOD 2, CH 1, 4W-R	Light brown and white	Slate and white	2, CHAN 1	4WR
MOD 2, CH 2, 2W	Dark brown and white	Blue and red	2, CHAN 2	2W-4WT
MOD 2, CH 2, 4W-R	Dark brown and white	Blue and red	2, CHAN 2	4WR
MOD 2, CH 3, 2W	Silver and white	Orange and red	2, CHAN 3	2W-4WT
MOD 2, CH 3, 4W-R	Silver and white	Orange and red	2, CHAN 3	4WR
MOD 2, CH 4, 2W	Dark green and white	Green and red	2, CHAN 4	2W-4WT
MOD 2, CH 4, 4W-R	Dark green and white	Green and red	2, CHAN 4	4WR
MOD 3, CH 1, 2W	Light green and white	Brown and red	3, CHAN 1	2W-4WT
MOD 3, CH 1, 4W-R	Light green and white	Brown and red	3, CHAN 1	4WR
MOD 3, CH 2, 2W	Violet and white	Slate and red	3, CHAN 2	2W-4WT
MOD 3, CH 2, 4W-R	Violet and white	Slate and red	3, CHAN 2	4WR
MOD 3, CH 3, 2W	Slate and white	Blue and black	3, CHAN 3	2W-4WT
MOD 3, CH 3, 4W-R	Slate and white	Blue and black	3, CHAN 3	4WR
MOD 3, CH 4, 2W	Light blue and white	Orange and black	3, CHAN 4	2W-4WT
MOD 3, CH 4, 4W-R	Light blue and white	Orange and black	3, CHAN 4	4WR

*e.* Make connections to the ORDER WIRE PANEL as follows:

- (1) Loosen the captive screws that secure the ORDER WIRE PANEL to the rack frame.
- (2) Pull the panel from its rack frame to expose the 2W EXT binding posts

located on the left front corner of the chassis (TM 11-2139-10).

- (3) Connect the brown and white wires, marked OW, to the 2W EXT binding posts
- (4) Push the ORDER WIRE PANEL in and secure it to its rack frame by tightening the captive screws.



*f.* Make special service connections to the SUBGROUP PANEL as follows:

- (1) Loosen the captive screws that secure the SUBGROUP PANEL to the rack frame.
- (2) Pull the panel from the rack frame and expose the internal control panel of the SUBGROUP PANEL (TM 11-2139-10).
- (3) Connect the two white wires, marked IN 1, to the binding posts SPECIAL SERVICE 1 IN.
- (4) Connect the two black wires, marked OUT 1, to the binding posts SPECIAL SERVICE 1 OUT.
- (5) Repeat the procedure given in (3) and (4) above for the wires coded IN 2, OUT 2, IN 3, and OUT 3, and connect them to the binding posts SPECIAL SERVICE 2 IN, 2 OUT, 3 IN, and 3 OUT, respectively.

*Note:* To use the 60-108 KC special service of the SUBGROUP PANEL, connect the IN and OUT 1 leads to the SPECIAL SERVICE 60-108 KC binding posts. To use the special service of the GROUP PANEL, connect the IN 1 and OUT 1 leads to the SPECIAL SERVICE 12-60 KC IN and OUT binding posts. Connect the IN 2 and OUT 2 leads to the SPECIAL SERVICE 60-108 KC binding posts.

- (6) Push the SUBGROUP PANEL in and secure it to its rack frame by tightening the captive screws.

*g.* Connect the power cord of the 200 VOLT POWER SUPPLY TO AN/TCC-7 receptacle in the signal duct on the ceiling (D, fig. 6-1).

## 2-12. Radio Facility Components

Interconnect the components of each radio set as described in *a* through *h* below.

*a.* Connect separate black ground wires (from the signal duct) to the GND binding posts on Power Supply PP-685/TRC, on the transmitter, and on the receiver.

*b.* Connect the signal duct spiral-four leads to the receiver as follows:

Wire marking	Binding post
White, pair	XMTG
Black, pair	REC
Black, shield	GND

*c.* Connect the signal duct coaxial rf cables to the ANTENNA jacks on the receiver and the transmitter.

*d.* Connect Electrical Special Purpose Cable Assembly CX-2253/U (fig. 6-2) from the TRANSMITTER jack of the radio power supply to the POWER SUPPLY jack on the transmitter.

*e.* Connect Electrical Special Purpose Cable Assembly CX-2252/U (fig. 6-2) from the RECEIVER jack on the transmitter to the TRANSMITTER jack on the receiver.

*f.* Remove Handset H-90/U from the storage cabinet and connect the plug of the cable attached to Handset H-90/U to the handset jack on the receiver.

**Caution:** Be sure that the power is off before performing the procedures given in *g* and *h* below.

*g.* Connect Electrical Power Cable Assembly CX-2256/U (fig. 6-2) from the POWER jack on the receiver to an AN/TRC-24 receptacle in the ac power duct on the ceiling (D, fig. 6-1).

*h.* Connect Electrical Power Cable Assembly CX-2258/U from 115 V AC INPUT jack on Power Supply PP-685/TRC to an AN/TRC-24 receptacle in the ac power duct on the ceiling (fig. 6-2).

## 2-13. Converter, Telegraph-Telephone Signal TA-182/U

The connections for the TA-182/U's of system 1 and system 2 are identical. Detailed instructions for connecting the TA-182/U's of system 1 are given in *a*, *b*, and *c* below.

*a.* The cables (from the signal duct) are marked to correspond with the equipment. The individual wire leads are marked to correspond to the equipment binding posts. Select the cable marked TA-182/U 1 and connect it to TA-182/U NO. 1 as indicated in the chart below.

Wire marking	From cable marked TA-182/U 1		Connect to TA-182/U NO. 1
	Wire color		Binding posts
	Serial No. 1 through 428 (Order No. 891-PP-57)	Serial No. 429 through 460 (Order No. 891-PP-57) and all subsequent equipments	
1	White -----	White -----	LINE 1 2W-4WS
2	Yellow -----	Blue -----	2 2W-4WS
3	White -----	White -----	3 4WR
4	Yellow -----	Blue -----	4 4WR
5	White -----	White -----	LOOP 5 2W-4WR
6	Yellow -----	Blue -----	6 2W-4WR
7	White -----	White -----	7 4WS
8	Yellow -----	Blue -----	8 4WS

b. Repeat the procedure given in *a* above for the other 11 TA-182/U's by using the wire color given in the chart below.

Cable marking	Wiring marking	Wire color		TA-182/U
		Serial No. 1 through 428 (Order No. 891-PP-57)	Serial No. 429 through 460 (Order No. 891-PP-57) and all subsequent equipments	
TA-182/U 2 -----	1-8	Orange and white -----	Orange and white -----	NO. 2
TA-182/U 3 -----	1-8	Black and white -----	Green and white -----	NO. 3
TA-182/U 4 -----	1-8	Pink or red and white -----	Brown and white -----	NO. 4
TA-182/U 5 -----	1-8	Light brown and white -----	Slate and white -----	NO. 5
TA-182/U 6 -----	1-8	Dark brown and white -----	Blue and red -----	NO. 6
TA-182/U 7 -----	1-8	Silver and white -----	Orange and red -----	NO. 7
TA-182/U 8 -----	1-8	Dark green and white -----	Green and red -----	NO. 8
TA-182/U 9 -----	1-8	Light green and white -----	Brown and red -----	NO. 9
TA-182/U 10 -----	1-8	Violet and white -----	Slate and red -----	NO. 10
TA-182/U 11 -----	1-8	Slate and white -----	Blue and black -----	NO. 11
TA-182/U 12 -----	1-8	Light blue and white -----	Orange and black -----	NO. 12

c. Connect the power cords of TA-182/U No. 1 through No. 12 to the corresponding receptacles TA-182/U No. 1 through No. 12 which are in the ac power duct (B, fig. 6-1).

## 2-14. Filter Assembly, Electrical F-98/U

a. Connect the wiring to the F-98/U's as indicated in the chart below.

Pair designation	From		To	
	Wire color		F-98/U	Binding posts
	Serial No. 1 through 428 (Order No. 891-PP-57)	Serial No. 429 through 460 (Order No. 891-PP-57) and all subsequent equipments		
NO. 1, LINE	Yellow and white	Blue and white	No. 1	Line
NO. 1, TP	Orange and white	Orange and white	NO. 1	TP
NO. 1, TG	Black and white	Green and white	NO. 1	TG
NO. 2, LINE	Red or pink and white	Brown and white	NO. 2	LINE
NO. 2, TP	Light brown and white	Slate and white	NO. 2	TP
NO. 2, TG	Dark brown and white	Blue and red	NO. 2	TG
NO. 3, LINE	Silver and white	Orange and red	NO. 3	LINE
NO. 3, TP	Dark green and white	Green and red	NO. 3	TP
NO. 3, TG	Light green and white	Brown and red	NO. 3	TG
NO. 4, LINE	Violet and white	Slate and red	NO. 4	LINE
NO. 4, TP	Slate and white	Blue and black	NO. 4	TP
NO. 4, TG	Light blue and white	Orange and black	NO. 4	TG

Pair designation	From		To	
	Wire color		F-98/U	Binding posts
	Serial No. 1 through 428 (Order No. 891-PP-57)	Serial No. 429 through 460 (Order No. 891-PP-57) and all subsequent equipments		
NO. 5, LINE	Dark blue and white	Green and black	NO. 5	LINE
NO. 5, TP	Silver and black	Brown and black	NO. 5	TP
NO. 5, TG	Slate and black	Slate and black	NO. 5	TG
NO. 6, LINE	Light brown and white	Blue and yellow	NO. 6	LINE
NO. 6, TP	Dark brown and black	Orange and yellow	NO. 6	TP
NO. 6, TG	Yellow and black	Green and yellow	NO. 6	TG
NO. 7, LINE	Light blue and black	Brown and yellow	NO. 7	LINE
NO. 7, TP	Dark blue and black	Slate and yellow	NO. 7	TP
NO. 7, TG	Light green and black	Blue and violet	NO. 7	TG
NO. 8, LINE	Dark green and black	Orange and violet	NO. 8	LINE
NO. 8 TP	Orange and black	Green and violet	NO. 8	TP
NO. 8, TG	Violet and black	Brown and violet	NO. 8	TG
NO. 9, LINE	Yellow and white	Blue and white	NO. 9	LINE
NO. 9, TP	Orange and white	Orange and white	NO. 9	TP
NO. 9, TG	Black and white	Green and white	NO. 9	TG
NO. 10, LINE	Red or pink and white	Brown and white	NO. 10	LINE
NO. 10, TP	Light brown and white	Slate and white	NO. 10	TP
NO. 10, TG	Dark brown and white	Blue and red	NO. 10	TG
NO. 11, LINE	Silver and white	Orange and red	NO. 11	LINE
NO. 11, TP	Dark green and white	Green and red	NO. 11	TP
NO. 11, TG	Light green and white	Brown and red	NO. 11	TG
NO. 12, LINE	Violet and white	Slate and red	NO. 12	LINE
NO. 12, TP	Slate and white	Blue and black	NO. 12	TP
NO. 12, TG	Light blue and white	Orange and black	NO. 12	TG

b. Replace the front plate and secure it with the nuts previously removed (para 2-7).

### Section III. INSTALLATION TESTING OF EQUIPMENT

#### 2-15. General

a. Be sure that the grounding and power connections (para 2-19 and 2-20) have been completed.

b. Energize the ac circuits (para 2-21).

c. Make sure that all equipment circuit breakers (except 1—LIGHTS & INTER-COM) on the power distribution panel (fig. 3-1) and the ac power switches on all equipment are in the *off* position.

#### 2-16. Carrier Terminal and Radio Set

##### Tests

a. Connect field wire between the SYS 1 and SYS 2 OW binding posts in the signal binding posts box (fig. 1-7).

b. Connect a spiral-four patch cable between the AN/TCC-7 NO. 1 and AN/ACC-7 NO. 2 receptacles in the signal and power entrance box (fig. 1-6) as follows:

- (1) Remove the spiral-four patch cable from the accessories and spares cabinet.
- (2) Remove the cover from each connector of the cable.
- (3) Remove the cover from the AN/TCC-7 NO. 1 and AN/TCC-7 NO. 2 receptacles in the signal and power entrance box.
- (4) Connect one connector of the cable to the AN/TCC-7 NO. 1 receptacle in the signal and power entrance box as follows:

- (a) Mate the male and female contacts of the cable connector with the contacts of the AN/TCC-7 NO. 1 receptacle.
- (b) Slip the covering sleeve on the cable connector over the AN/TCC-7 NO. 1 receptacle and turn the sleeve until the connection is locked firmly.
- (5) Connect the other end of the spiral-four patch cable to the AN/TCC-7 NO. 2 receptacle.
- c. Perform the preliminary starting procedures for each telephone terminal (TM 11-2139-10) for four-wire operation.
- d. Operate the TP-TG switch on all TA-182/U's to the TP position.
- e. Operate the 2W-4W switch on all TA-182/U's to the 4W position.
- f. Operate the following circuit breakers and switches to the ON position:

Circuit breaker or switch	Location
AN/TCC-7 1 -----	Power distribution panel (fig. 3-1).
AN/TCC-7 2 -----	Power distribution panel.
TR-182/U SYSTEM 1 --	Power distribution panel.
TA-182/U SYSTEM 2 --	Power distribution panel.
All TA-182/U switches --	Front wall (B, fig. 6-1).

- g. Check to see that the neon lamp is lighted over each circuit breaker and beside each switch.
- h. Perform the lineup procedures for the telephone terminals as described in TM 11-2139-10 and TM 11-2150.
- i. Transmit between the two telephone terminals on all channels including the order-wire channel.
- j. Disconnect the spiral-four patch cable from the AN/TCC-7 NO. 2 receptacle in the signal and power entrance box.
- k. Connect the cable from the AN/TCC-7 NO. 1 receptacle to the AN/TRC-24 NO. 1 receptacle in the signal and power entrance box.
- l. Connect a spiral-four patch cable from the AN/TCC-7 NO. 2 receptacle to the AN/TRC-24 NO. 2 receptacle in the signal and power entrance box.

m. Perform the starting procedures for each radio set as described in TM 11-5820-287-10. (Omit the procedures involving Autotransformer Fixed Power Transformer TF-167/TRC.)

n. Perform the tuning procedures for the radio sets as described in TM 11-5820-287-10.

o. Use field wire and strap the top and bottom SPECIAL SERVICE SYSTEM 1 IN 1 binding posts in the signal binding posts box.

p. Repeat the procedure given in o above for all other SPECIAL SERVICE SYSTEM 1 and SYSTEM 2 and SYS 1 and SYS 2 OW binding posts pairs.

q. Use a screwdriver to loosen the captive screws that secure the SUBGROUP PANELS (system 1 and system 2) to the equipment rack.

r. Pull the panels from the equipment rack and expose the internal control panel of each SUBGROUP PANEL.

s. Use the multimeter and check the continuity between the two SPECIAL SERVICE 1 IN binding posts on the internal control panel of each SUBGROUP PANEL.

t. Repeat the procedure given in s above for the remaining binding post pairs.

u. Push both SUBGROUP PANELS in and secure them to their equipment rack with the captive screws.

v. Remove the field wires from the SPECIAL SERVICE and OW SYS 1 and SYS 2 binding posts in the signal binding posts box.

w. Check the filter connections (para 2-17).

## 2-17. Continuity Checks of Filter Assembly, Electrical F-98/U

To check the continuity of the connections between the F-98/U's and the signal and power entrance box, perform the procedures given in a through e below.

a. Connect a 26-pair cable to SIGNAL 5 in the signal and power entrance box.

b. Connect the other end of the 26-pair cable to a 26-pair receptacle on a Distribution Box J-1077A/U.

c. Bring the J-1077A/U into the AN/MRC-69(V) so that it is within easy reach of the F-98/U's.

d. Use the multimeter and test the continuity between the binding posts indicated in the chart below:

J-1077A/U binding posts	Binding posts on F-98/U
Pair 1 top	NO. 1 LINE top.
Pair 1 bottom	NO. 1 LINE bottom.
Pair 2 top	NO. 1 TP top.
Pair 2 bottom	NO. 1 TP bottom.
Pair 3 top	NO. 1 TG top.
Pair 3 bottom	NO. 1 TG bottom.
Pair 4 top	NO. 2 LINE top.
Pair 4 bottom	NO. 2 Line bottom.
Pair 5 top	NO. 2 TP top.
Pair 5 bottom	NO. 2 TP bottom.
Pair 6 top	NO. 2 TG top.
Pair 6 bottom	NO. 2 TG bottom.
Pair 7 top	NO. 3 LINE top.
Pair 7 bottom	NO. 3 LINE bottom.
Pair 8 top	NO. 3 TP top.
Pair 8 bottom	NO. 3 TP bottom.
Pair 9 top	NO. 3 TG top.
Pair 9 bottom	NO. 3 TG bottom.
Pair 10 top	NO. 4 LINE top.
Pair 10 bottom	NO. 4 LINE bottom.
Pair 11 top	NO. 4 TP top.
Pair 11 bottom	NO. 4 TP bottom.
Pair 12 top	NO. 4 TG top.
Pair 12 bottom	NO. 4 TG bottom.
Pair 13 top	NO. 5 LINE top.
Pair 13 bottom	NO. 5 LINE bottom.
Pair 14 top	NO. 5 TP top.
Pair 14 bottom	NO. 5 TP bottom.
Pair 15 top	NO. 5 TG top.
Pair 15 bottom	NO. 5 TG bottom.

J-1077A/U binding posts	Binding posts on F-98/U
Pair 16 top	NO. 6 LINE top.
Pair 16 bottom	NO. 6 LINE bottom.
Pair 17 top	NO. 6 TP top.
Pair 17 bottom	NO. 6 TP bottom.
Pair 18 top	NO. 6 TG top.
Pair 18 bottom	NO. 6 TG bottom.
Pair 19 top	NO. 7 LINE top.
Pair 19 bottom	NO. 7 LINE bottom.
Pair 20 top	NO. 7 TP top.
Pair 20 bottom	NO. 7 TP bottom.
Pair 21 top	NO. 7 TG top.
Pair 21 bottom	NO. 7 TG bottom.
Pair 22 top	NO. 8 LINE top.
Pair 22 bottom	NO. 8 LINE bottom.
Pair 23 top	NO. 8 TP top.
Pair 23 bottom	NO. 8 TP bottom.
Pair 24 top	NO. 8 TG top.
Pair 24 bottom	NO. 8 TG bottom.

e. Repeat the procedures given in a through d above for SIGNAL 6, which is connected to four F-98/U's.

f. Disconnect the 26-pair cables that are connected to the SIGNAL 1, SIGNAL 2, SIGNAL 3, and SIGNAL 4 26-pair receptacles in the signal and power entrance box.

g. Disconnect the 26-pair cable that is connected to the SIGNAL 5 receptacle and the J-1077A/U.

h. Replace the covers on the connectors and receptacles and wind the cables on their reels.

## Section IV. PREOPERATIONAL PROCEDURES

### 2-18. Siting

The location of Radio Terminal Set AN/MRC-69(V) will depend on the tactical situation, antenna siting considerations (TM 11-5820-287-20), and other local conditions.

a. *Ground Installation.* When installed on the ground, the AN/MRC-69(V) should be placed on firm, dry ground with good drainage; the site should be prepared and leveled. The shelter facility should be placed on concrete blocks or wooden beams, if possible, and positioned to facilitate connections to the power and signal entrance boxes. If a generator set is used to provide ac power, it should be located approximately 75 feet away from the

AN/MRC-69(V) to minimize fire hazard and generator noise interference.

*Note:* To install the AN/MRC-69(V) on the ground or on a truck four men and a device capable of lifting 7,500 pounds are required.

#### b. Truck Installation.

- (1) Use the sling hooks (nearest the turnbuckles (fig. 2-3)) to connect the sling assembly to the S-178(\*)/MRC-69(V) lifting eyes.
- (2) Place the sling assembly on top of the S-178(\*)/MRC-69(V).
- (3) Connect the four sling hooks to the lifting ring.

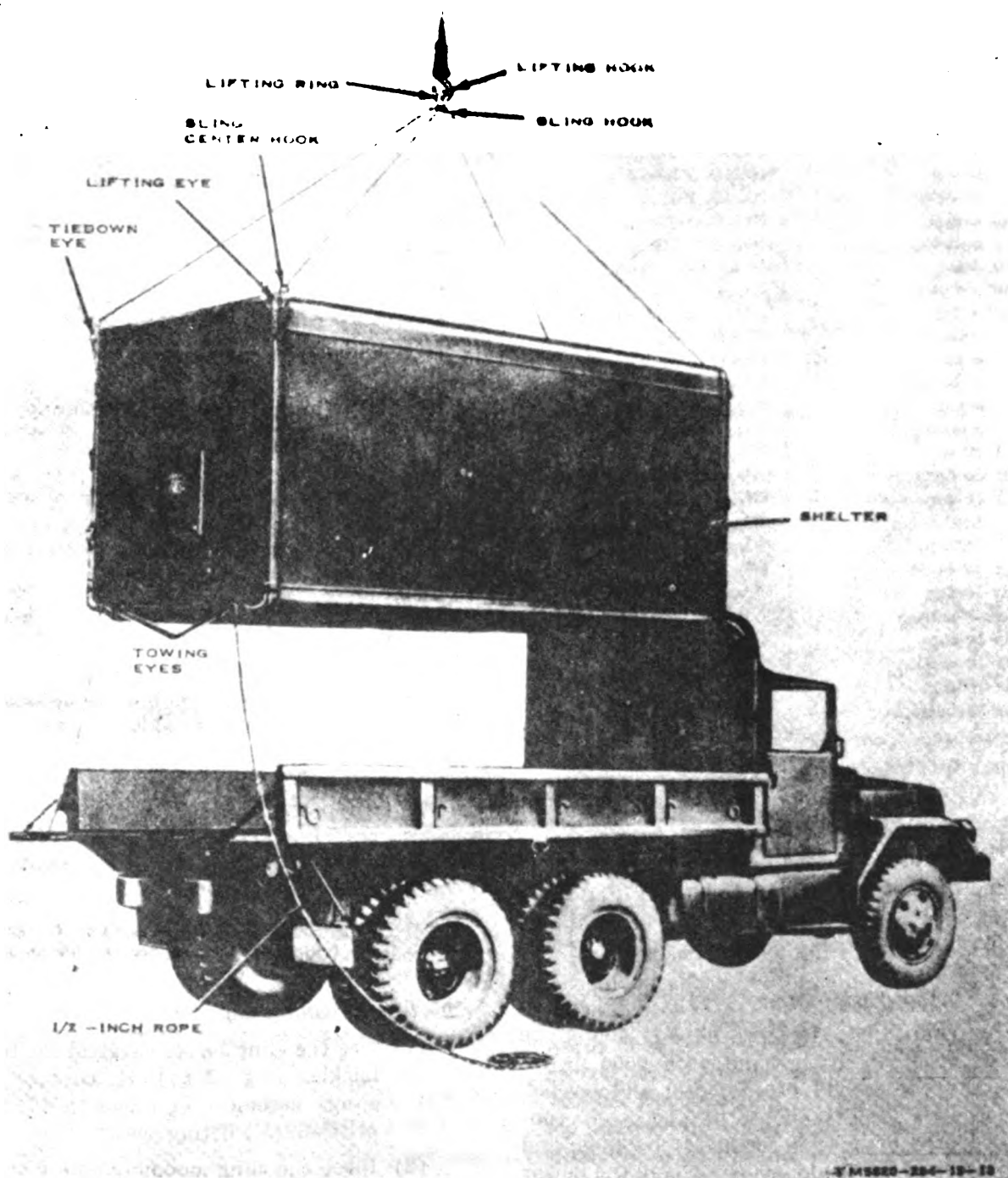


Figure 2-3. Lifting AN/MRC-69(V).

- (4) Place the lifting ring over the hook of the lifting device.

**Warning:** To avoid injury to personnel or damage to the equipment, only the personnel engaged in the actual loading operation should be permitted near the truck, lifting device, and shelter facility. To eliminate confusion, all instructions must come from the loading crew supervisor.

- (5) Tie a 1/2-inch rope (at least 15 feet long) to each rear towing eye.
  - (6) Lower the tailgate of the truck and make sure that all tools and equipment have been removed from the truck body.
  - (7) Slowly lift the shelter facility high enough to clear the body of the truck.
  - (8) Position a man at each of the 1/2-inch ropes to guide the shelter facility.
- Note:** The entrance door of the S-178(\*)/MRC-69(V) must be at the rear of the truck, and the front end must be flush against the front of the truck body.
- (9) Back the truck slowly into position under the shelter facility.
- Warning:** All personnel must remain clear of the truck while the S-178(\*)/MRC-69(V) is being lowered onto the truck.
- (10) Slowly lower the shelter facility onto the truck.
  - (11) Remove the lifting ring from the lifting hook and disassemble the lifting ring and the sling hooks. Remove the sling hooks from the lifting eyes and the 1/2-inch ropes from the towing eyes. Raise and secure the truck tailgate.
  - (12) Install the tiedown ring assembly (part of sling assembly) above the center support of the cargo bed side rail of the truck (A, fig. 2-4).
  - (13) Use the hook at the end farthest from the turnbuckle and hook each sling assembly to a tiedown eye of the shelter facility.

- (14) Secure the sling hooks to the tiedown ring (B, fig. 2-4).

- (15) To secure the other side of the shelter facility, follow the procedures given in (12), (13), and (14) above.

**Caution:** Do not overtighten the turnbuckles.

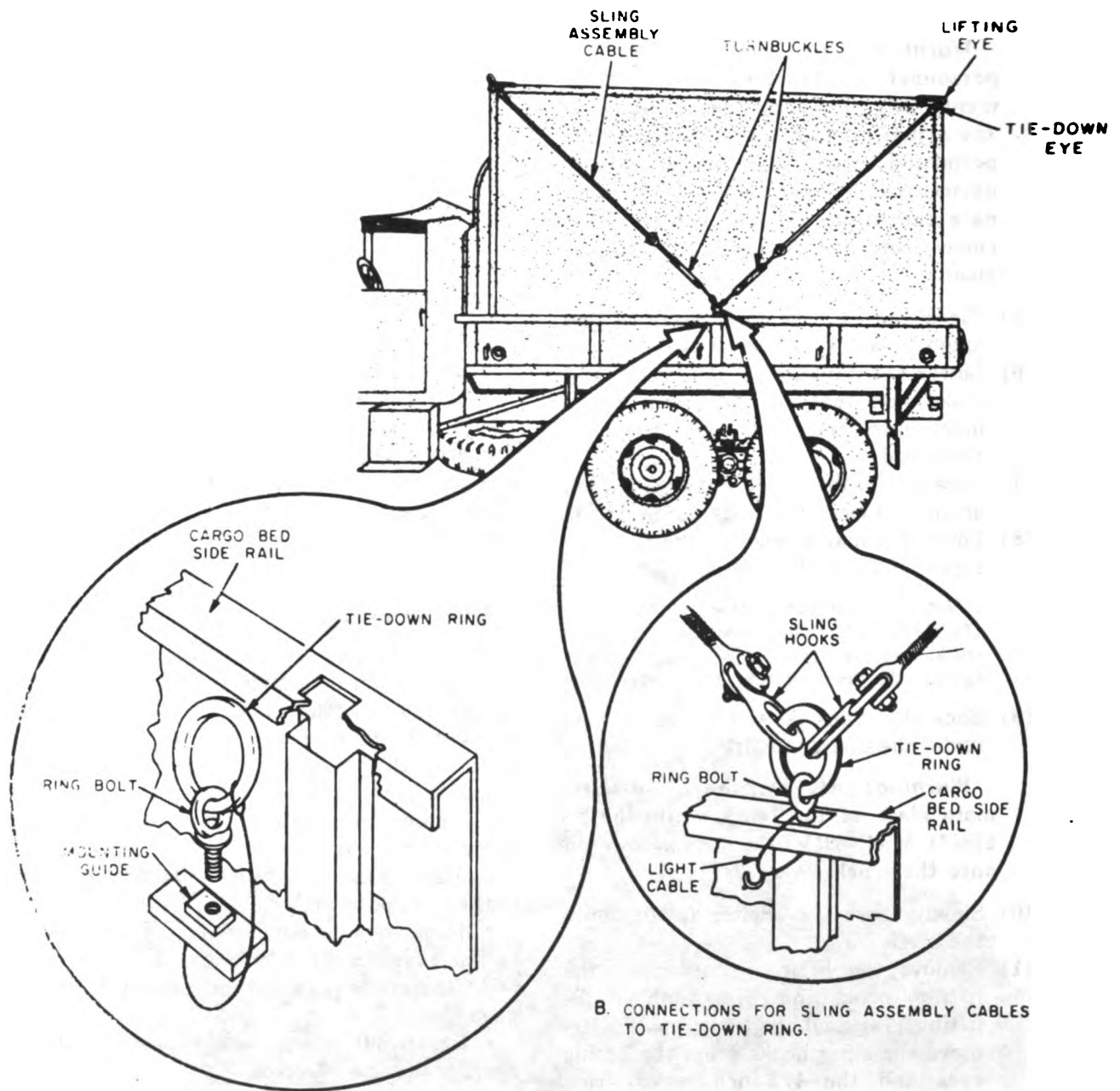
- (16) Tighten all turnbuckles evenly by hand, and then turn each turnbuckle an additional one-half turn with a bar or rod inserted into the slot of the turnbuckle.
- (17) After the truck is driven to the operating site, remove the ladder from the shelter facility and secure it to the truck tailgate.

c. Unloading the AN/MRC-69(V). To unload the AN/MRC-69(V), loosen the turnbuckles and remove the sling assembly; then follow the lifting procedures given in b (1) through (8) above.

## 2-19. Grounding

The AN/MRC-69(V) must be properly grounded before input power is connected. Select a grounding site within 10 feet of the signal and power entrance box that will not interfere with the entrance door, field wires, antenna, or power cables.

- a. Loosen the captive screw and lift the cover of the signal and power entrance box.
- b. Use the cover support to secure the cover in the open position.
- c. Remove a ground rod and the sledge hammer from their mountings.
- d. Remove any paint or grease from the ground rod.
- e. Scoop out a small hole, about 6 inches deep, at the site selected.
- f. Drive the ground rod into the hole until the top of the ground rod is approximately 3 inches above the bottom of the hole.
- g. Saturate the ground around the rod with water to keep it moist.
- h. Remove a 10-foot ground strap from the storage cabinet.
- i. Connect one end of the ground strap to the ground rod; connect the other end to the GRD lug at the bottom of the signal and power entrance box.



A. EXPLODED VIEW OF TIE-DOWN RING ASSEMBLY

TM5820-204-15-14

Figure 2-4. Securing AN/MRC-69(V) in truck.

j. If a generator set is used for supplying ac power, ground it in the same manner as the shelter facility.

## 2-20. Power Connections

**Caution:** Grounding connections (para 2-8) must be completed before power is connected to the AN/MRC-69(V).

Ac power for the AN/MRC-69(V) may be obtained from a generator set, a central power source, or a commercial power source.

### a. Preliminary Procedures.

- (1) Make sure that all the circuit breakers and equipment power switches are in the off position.



- (2) Remove the power cable assembly and reel from the AN/MRC-69(V).
- (3) Unwind the power cable assembly and power cable stub from the reel and store the reel.
- (4) Remove Connector Adapter UG-1312/U (junction box) from the door mounting bracket (E, fig. 6-1).

**b. Connection to Generator Set.**

- (1) Remove the cover from the IN POWER 115 V receptacle in the signal and power entrance box and from one end of the power cable assembly; connect the power cable assembly to the IN POWER 115 V receptacle.

*Notes:* If the generator set is equipped with compatible connectors, omit the procedure given in (2) and (3) below, and connect the other end of the power cable assembly directly to the power distribution panel of the generator set.

- (2) Refer to the appropriate technical manual and connect the red, white, and black leads of the power cable stub to the generator set.
- (3) Remove the covers from the power cable stub, the junction box, and from the power cable assembly. Connect the power cable assembly to one side of the junction box; connect the other side of the junction box to the power cable stub.

**c. Connection to Commercial Power Source.**

- (1) Turn off or disconnect the commercial power before making any connections.
- (2) If the power source is a 120-volt, 50- or 60-cycle per second (cps), single-phase, two-wire source, connect the red and white wires of the power cable stub to the neutral wire, and connect the black wire of the power cable stub to the *hot* wire.
- (3) If the power source is a 110-220-volt, 50- or 60-cps two-phase, three-wire distribution system, connect the red and white wires of the power cable stub to the neutral bus bar and the black wire to the phase 1 or phase 2 bus bar of the source.

- (4) If the power source is a 110-220-volt, 50- or 60-cps, three-phase, four-wire distribution system, connect the red and white wires of the power cable stub to the neutral bus bar, and the black wire to the phase 1, phase 2, or the phase 3 bus bar.
- (5) Connect the power cable stub to one side of the junction box. Connect the other side of the junction box to one end of the power cable assembly. Connect the other end of the power cable assembly to the IN POWER 115 V connector in the signal and power entrance box.

## 2-21. Energizing Ac Circuits

To prepare the AN/MRC-69(V) for operation, perform the following procedures:

- a. When a generator set is used to supply the ac power, start the generator as described in the applicable technical manual.
- b. When a commercial power source is used, apply power to the source terminals.
- c. Operate the MAIN circuit breaker on the power distribution panel (fig. 3-1) to ON.
- d. Operate circuit breaker 1—LIGHTS & INTERCOM to ON.
- e. Operate the appropriate interior lighting wall power duct switch to ON.
- f. Check the voltmeter (fig. 3-1). It should indicate 115 volts  $\pm 10$ .
- g. Check the ammeter. It should indicate less than 2 amperes.
- h. Operate the NORMAL-BLACKOUT switch to NORMAL. When blackout conditions are required, operate the NORMAL-BLACKOUT switch to BLACKOUT.

**Caution:** Open the blower vents and air filter cover on the outside of the shelter facility before operating the exhaust blowers.

- i. Operate all circuit breakers (except SPARE) to ON. If the heater or convenience receptacles are to be used, operate the OVERLOAD circuit breaker to ON.

## 2-22. Installation of Antenna System

Each radio set of the AN/MRC-69(V) includes an antenna system. Each antenna system consists of two antennas, which may be

mounted on a single mast or on separate ones. Cables from the receiving and transmitting antennas are connected to the ANTENNA RCVR and ANTENNA XMTR receptacles

respectively, in the signal and power entrance box (fig. 1-6). Refer to TM 11-5820-287-20 for information concerning the siting, assembly, and erection of the antenna system.

## Section V. SIGNAL CONNECTIONS

### 2-23. Circuit Planning.

Radio Terminal Set AN/MRC-69(V) provides the link between communication centers. Twenty-four channels are provided for either telephone or voice-frequency teletypewriter signals. Twelve filters permit telephone and voice-frequency teletypewriter signals to be operated simultaneously on 12 of the channels. All the facilities normally provided by Terminals, Telephone AN/TCC-7 and AN/TCC-50 and the radio sets have been retained. A patching panel provides for the connection of filters (F-98/U) for speech-plus-half-duplex operation.

a. Local, trunk, and special circuits may be connected through the signal binding posts box or the signal and power entrance box. Each binding post in the signal binding posts box is connected in parallel with a corresponding contact of a 26-pair receptacle in the signal and power entrance box. *Because of the parallel connections, the binding posts may be externally cross-connected (using field wire) to facilitate the use of a single 26-pair receptacle for four-wire operation (para 2-25b(1)).* No binding posts are provided for pair 25 of SIGNAL 1 receptacle, pairs 25 and 26 of SIGNAL 2 through SIGNAL 5 receptacles, and pairs 13 through 26 of SIGNAL 6 receptacle.

b. Telephone lines and two-wire or four-wire teletypewriter signals may be connected to the channels through SIGNAL 1 through 4 receptacles in the signal and power entrance box or the corresponding binding posts in the signal binding posts box or to the F-98/U's through SIGNAL 5 and 6 or the corresponding binding posts. The channel circuits are so connected that SIGNAL 1 and 2 receptacles, or the corresponding binding posts, are used for two-wire operation; SIGNAL 1 through 4, or the corresponding binding posts, are used for four-wire operation.

c. The patching panel permits interchange of local or trunk lines between channels and the interconnection of an F-98/U between the line and the channel.

d. Binding posts for connection of special wide-band circuits are also provided on the signal binding posts box.

### 2-24. Local Circuits

Local circuits may be connected for two- or four-wire operation to the binding posts in the signal binding posts box or to the J-1077A/U's.

a. *Signal Binding Posts Box.* A two- or four-wire local circuit may be connected to the signal binding posts box by connecting field wire to pairs of binding posts.

b. *Distribution Box J-1077A/U.*

- (1) *Two-wire operation.* Local circuits may be connected to the J-1077A/U for two-wire operation by connecting a 26-pair cable between SIGNAL 1 or SIGNAL 2 receptacle in the signal and power entrance box and one of the 26-pair receptacles on the J-1077A/U. Field wire is then connected to a pair of binding posts on the J-1077A/U.
- (2) *Four-wire operation.* For four-wire operation, two J-1077A/U's may be used as follows: Two 26-pair cables may be connected between SIGNAL 1 and SIGNAL 3 or SIGNAL 2 and SIGNAL 4 receptacles in the signal and power entrance box and the 26-pair receptacles on two J-1077A/U's. Field wire for the receive side of the circuits may then be connected to the binding posts of the J-1077A/U which is connected to SIGNAL 1 or SIGNAL 2 receptacle in the signal and power entrance box, and field wire for the transmit side to

the binding posts on the other J-1077A/U. Field wire for the receive and transmit sides of the same circuit must be connected to the same numbered pairs of binding posts on each J-1077A/U.

## 2-25. Truck Circuits

Trunk circuits can be connected directly to the AN/MRC-69(V) from Communication Patching Panel SB-611/MRC (TM 11-5805-204-15) Use the information given below to make the connections to channels for two-wire, four-wire, or speech-plus-half-duplex, speech-plus-full-duplex, and landline operation.

### a. Two-Wire Operation

- (1) When two-wire telephone or teletypewriter communication, using the telephone terminal and the radio set of system 1 is required, connect a 26-pair cable to the SIGNAL 1 receptacle and a spiral-four patching cable from AN/TCC-7 NO. 1 receptacle to the AN/TRC-24 NO. 1 receptacle in the signal and power entrance box (fig. 1-6).
- (2) When two-wire telephone or teletypewriter communication, using the telephone terminal and radio set of system 2 is required, connect a 26-pair cable to SIGNAL 2 receptacle and a spiral-four patching cable from AN/TCC-7 NO. 2 receptacle to the AN/TRC-24 NO. 2 receptacle in the signal and power entrance box.

### b. Four-Wire Operation.

#### (1) Using one 26-pair receptacle.

*Note.* Inform the operator at the SB-611/MRC whenever the procedures given in (a) or (b) below are applicable for the trunk circuits connected between the AN/MRC-69(V) and the SB-611/MRC.

- (a) When four-wire telephone or teletypewriter communication, using the telephone terminal and the radio set of system 1 is required, repeat the procedure given in a(1) above and connect field wire between the binding post pairs in the

signal binding posts box (fig. 1-7) as shown in the following chart:

From— SYSTEM 1 LOOPS 4WR 2W SIGNAL 1		To— SYSTEM 1 LOOPS 4WS SIGNAL 3	
Row No.	Pair No.	Row No.	Pair No.
4	13	7	1
4	14	7	2
4	15	7	3
4	16	7	4
4	17	7	5
4	18	7	6
4	19	7	7
4	20	7	8
4	21	7	9
4	22	7	10
4	23	7	11
4	24	7	12

- (b) When four-wire telephone or teletypewriter communication, using the telephone terminal and radio set of system 2 is required, repeat the procedures given in a(2) above and connect field wire between the binding post pairs in the signal binding posts box as shown in the following chart:

From— SYSTEM 1 LOOPS 4WR 2W SIGNAL 2		To— SYSTEM 1 LOOPS 4WS SIGNAL 4	
Row No.	Pair No.	Row No.	Pair No.
2	13	5	1
2	14	5	2
2	15	5	3
2	16	5	4
2	17	5	5
2	18	5	6
2	19	5	7
2	20	5	8
2	21	5	9
2	22	5	10
2	23	5	11
2	24	5	12

#### (2) Using two 26-pair receptacles.

- (a) When four-wire telephone or teletypewriter communication, using the telephone terminal and the radio set of system 1 is required,

repeat the procedure given in *a*(1) above and connect a 26-pair cable to SIGNAL 3 receptacle in the signal and power entrance box (fig. 1-6).

- (b) When four-wire telephone or teletypewriter communication, using the telephone terminal and radio set of system 2 is required, repeat the procedures given in *a*(2) above and connect a 26-pair cable to SIGNAL 4 receptacle in the signal and power entrance box.

*c. Speech-Plus-Half-Duplex Operation.* For two-wire speech-plus-half-duplex operation, telephone and teletypewriter communication through a filter, the F-98/U is patched to the channel at the AN/MRC-69(V) patching panel (para 3-3).

*d. Speech-Plus-Full-Duplex Operation.* For four-wire speech-plus-full-duplex operation, telephone and teletypewriter communication through filters, connect a 26-pair cable from the SIGNAL 5 or SIGNAL 6 26-pair receptacle in the signal and power entrance box to the SB-611/MRC (TM 11-5805-204-15). The F-98/U's may then be patched in the AN/MRC-69(V) (para 3-3) and the SB-611/MRC.

*e. Landline Connections.* For telephone or teletypewriter communication through the telephone terminals and over a landline, connect the 26-pair cable or cables to the associated SIGNAL receptacle as described in *a* and *b* above and connect the spiral-four landline cable to the AN/TCC-7 NO. 1 or AN/TCC-7 NO. 2 receptacle in the signal and power entrance box, as required.

## 2-26. Connection of AN/MRC 69(V) for Use as Radio Repeater

The AN/MRC-69(V) may be used as a radio repeater station by changing exterior cable connections. Follow the procedure below to arrange the radio facility equipments in the AN/MRC-69(V) for radio repeater station operation.

*a. Radio Repeater Station Using Both Radio Sets.* Connect a spiral-four patch cable between the AN/TRC-24 NO. 1 and the AN/TRC-24 NO. 2 receptacles in the signal and power entrance box.

*b. Radio Repeater Station Using One AN/MRC-69(V) Radio Set and One External Radio Set.* One of the radio sets of the AN/MRC-69(V) may be used with an external radio set to provide complete radio repeater facilities when it is necessary to separate the two radio sets.

- (1) Select the radio set in the AN/MRC-69(V) that is to be used as one of the radio repeater sets.
- (2) Connect a spiral-four cable between the appropriate receptacle in the AN/MRC-69(V) signal and power entrance box and the spiral-four connector on the external radio set.

*Note:* Up to 5-1/2 miles of spiral-four cable may be used to interconnect the two radio sets.

*c. Using External Telephone Terminal.* To connect one of the radio sets in the AN/MRC-69(V) to an external AN/TCC-7, connect a spiral-four cable between the appropriate spiral-four receptacle in the AN/MRC-69(V) signal and power entrance box and the external AN/TCC-7.

## 2-27. Special Circuits

Special circuits can be established with the AN/MRC-69(V) through the signal and power entrance box or the signal binding posts box. Special service and order-wire circuits, intershelter communication circuits, and additional equipment connections can be made as described below.

*a. Special Service and Order-Wire Circuits.* Special service (4-20 kilocycles (kc), 12-60 kc, or 60-108 kc) and order-wire channel circuits may be connected to the telephone terminals of system 1 or system 2 by connecting field wire to the SPECIAL SERVICE SYSTEM 1 or SYSTEM 2 IN and OUT binding posts and SYS 1 or SYS 2 OW binding posts in the signal binding posts box (fig. 1-7).

*b. Intershelter Communication Circuits.* Intershelter communication circuits can be established on pairs 25 and 26 when 26-pair cables are connected between SIGNAL 1 and SIGNAL 2 receptacles of the AN/MRC-69(V) and SIG OUT receptacles of the SB-611/MRC (TM 11-5805-204-15). When SIGNAL

1 receptacle is not used, the circuit can be established by connecting field wire to the SIGNAL 1 PAIR 26 binding posts in the signal binding posts box.

*c. Additional Equipment Connections.*  
BINDING POSTS A and B in the signal bind-

ing posts box and on the jack and binding post panel provide an entry into the shelter. These binding posts can be used to interconnect additional telephone sets or other equipment inside and outside the S-178(\*)/MRC-69(V).



## CHAPTER 3

### OPERATING INSTRUCTIONS

#### 3-1. Types of Operation

Radio Terminal Set AN/MRC-69(V) may be arranged for two- or four-wire operation on two separate systems, each consisting of a telephone terminal, a radio set, and 12 voice-frequency ringers. Provisions are also made for speech-plus-full- or half-duplex operation through 12 filters (para 3-3), and special service operations through the telephone terminals. In all cases, the operation of the major components is covered in their respective technical

manuals (appx I). Procedures for the operation of the S-178(\*)/MRC-69(V) components are given in paragraph 3-4.

#### 3-2. Operating Controls and Indicators

The charts given in *a* and *b* below list descriptions and explain the functions of the controls and indicators of the S-178(\*)/MRC-69(V). For information concerning the controls and indicators of the radio, carrier, and telephone equipments, refer to the appropriate technical manuals (appx I).

##### *a. Power Distribution Panel (fig. 3-1).*

Control or Indicator	Function and description
MAIN circuit breaker (2 ganged circuit breakers) ----	Rating: 50 amperes, two-position, ON-OFF switch. Provides overload protection for incoming 115-volt ac power supply. Controls ac power supply to the other tributary circuit breakers.
Tributary circuit breakers -----	Rating: 15 amperes, two-position, ON-OFF switches.
1—LIGHTS & INTERCOM -----	Provides overload protection to all lighting devices and the LS-147C/FI.
2—AN/TRC-24 1 -----	Provides overload protection to the radio set equipments of system 1.
3—AN/TRC-24 2 -----	Provides overload protection to the radio set equipment of system 2.
4—AN/TCC-7 1 -----	Provides overload protection to the telephone terminal of system 1.
5—AN/TCC-7 2 -----	Provides overload protection to the telephone terminal of system 2.
6—TA-182/U SYSTEM 1 -----	Provides overload protection to TA-182/U No. 1 through No. 12 of system 1.
7—TA-182/U SYSTEM 2 -----	Provides overload protection to TA-182/U No. 1 through No. 12 of system 2.
8—BLOWER 1 -----	Provides overload protection to blower No. 1.
9—BLOWER 2 -----	Provides overload protection to blower No. 2.
10—SPARE -----	May be used as the replacement for defective 15-ampere circuit.
11—CONVENIENCE RECEPTACLE -----	Provides overload protection to convenience receptacles.
12—HEATER -----	Provides overload protection to HEATER receptacle.
13—OVERLOAD -----	Rating: 45 amperes, two-position, ON-OFF switch, protects the power unit from being overloaded.

Control or indicator	Function and description
Voltmeter (0-150 scale) -----	Indicates ac voltage input to AN/MRC-69(V). components of AN/MRC-69(V).
Ammeter (0-50 scale) -----	Indicates amount of ac current being used by components of AN/MRC-69(V).
Glowlamps (1-13) -----	Neon lamps light when the associated individual circuit breaker is on.

#### b. Miscellaneous Switches (B, fig. 6-1).

Control or instrument	Function and description						
NEON switch -----	Two-position, ON-OFF switch. Controls neon lamp.						
NORMAL-BLACKOUT switch -----	Two-position, ON-OFF switch. Controls all lighting in shelter except the neon lamp.						
	<table> <tr> <th>Sw Pos</th><th>Function</th></tr> <tr> <td>NORMAL -----</td><td>Permits lights to be controlled by their individual switches.</td></tr> <tr> <td>BLACKOUT -----</td><td>Permits door microswitch to control all lights except the neon lamp.</td></tr> </table>	Sw Pos	Function	NORMAL -----	Permits lights to be controlled by their individual switches.	BLACKOUT -----	Permits door microswitch to control all lights except the neon lamp.
Sw Pos	Function						
NORMAL -----	Permits lights to be controlled by their individual switches.						
BLACKOUT -----	Permits door microswitch to control all lights except the neon lamp.						
Door microswitch -----	Controls all lighting, except neon lamp, when NORMAL-BLACKOUT switch is on BLACKOUT. When the door is opened, the lights go out. When the door is closed, the lights go on.						
FLUORESCENTS switch -----	Two-position, ON-OFF switch. Controls all fluorescent lights.						
TA-182/U No. 1 through No. 12 switches for system 1 and system 2 (B, fig. 6-1).	Two-position, ON-OFF switch. Controls ac power to TA-182/U No. 1 through 24.						

### 3-3. Patching to Use Filter Assembly, Electrical F-98/U (fig. 3-2)

Follow the procedures listed below for patching the F-98/U's into the system:

a. *Speech-Plus-Half-Duplex Operation on TP Loop.* The use of the F-98/U permits simultaneous telephone and teletypewriter operation over a carrier channel. A filter is inserted between the carrier channel and the TA-182/U by patching from the F-98/U FILTER LINE jack to the required 2-WIRE AN/TCC-7 CHANNEL jack and from the F-98/U FILTER TP jack to the corresponding 2-WIRE TA-182/U LINE jack. For example, to patch F-98/U NO. 1 to CHAN 1 of the AN/TCC-7 of system No. 1, proceed as follows:

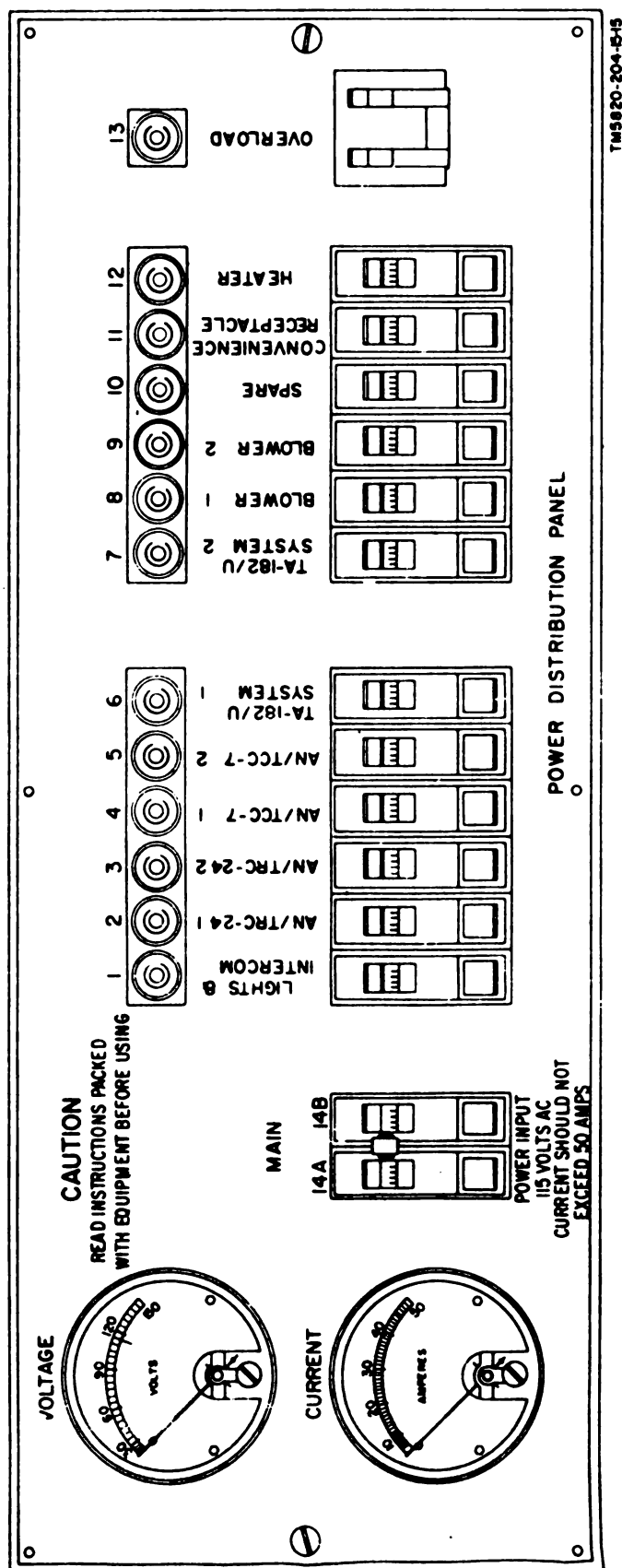
- (1) Insert a patch cord into the LINE jack of F-98/U FILTER 1 and insert the other end of the patch cord into the TCC-7 1 jack on the top jack row of the jack panel.

- (2) Insert one end of another patch cord into the TP 1 jack and insert the other end into the TA-182 1 jack of system 1.
- (3) Turn on the TA-182/U and set it to 2W and TP.

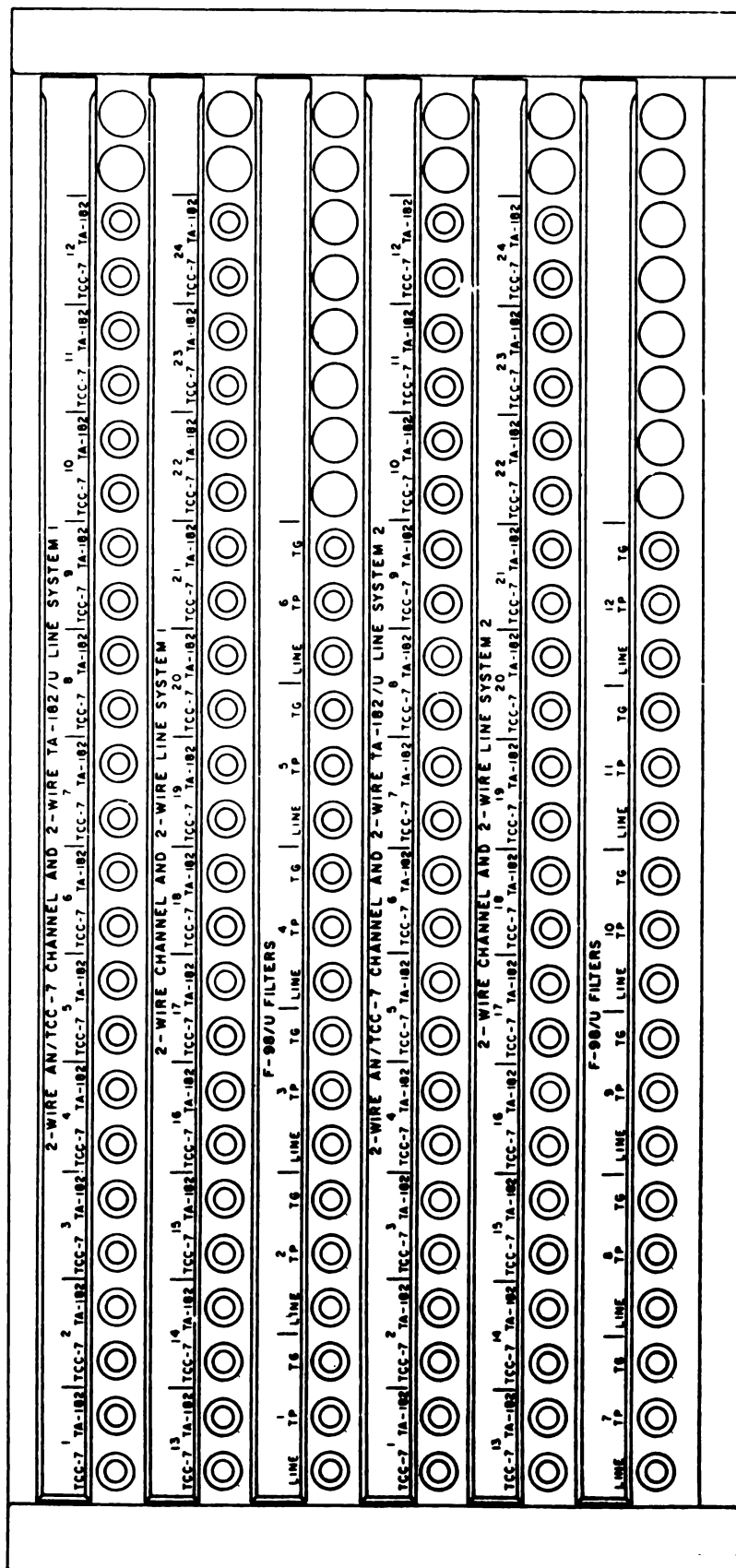
*Note:* The telephone channel loop now appears at the TP binding posts of the F-98/U and in 26-pair receptacle SIGNAL 5 or SIGNAL 6. The TG loop from the F-98/U appears at its normal position at the binding posts and 26-pair receptacle SIGNAL 5 or SIGNAL 6.

b. *Speech-Plus-Half-Duplex Operation on TG Loop.* The TA-182/U may be used on the TG loop instead of the TP loop by patching from the F-98/U FILTER LINE jack to the required 2-WIRE AN/TCC-7 CHANNEL jack and from the F-98/U FILTER TG jack to the corresponding 2-WIRE TA-182/U LINE jack. For example, to patch F-98/U No. 2 to CHAN 2 on the AN/TCC-7 of system No. 1, proceed as follows:





**Figure 3-1. Power distribution panel.**



TM 11-5820-204-15-10

Figure 3-2. Patch Panel.

- (1) Insert a patch cord in the LINE jack of F-98/U FILTER 2 and insert the other end of the patch cord into the TCC-7 2 jack in the top row of the patch panel.
- (2) Insert one end of another patch cord into the TG 2 jack and insert the other end into the TA-182/U LINE jack of system 1.
- (3) Turn on the TA-182/U and set it to 2W and TG.

*Note:* The telephone channel loop now appears at the binding posts of the F-98/U. The TG loop now appears at the binding posts and the 26-pair receptacle SIGNAL 1 or SIGNAL 2 in the normal position of the telephone loop.

*c. Speech-Plus-Full-Duplex Operation.* To provide this type service, two carrier channels must be provided and the patching must be performed in the SB-611/MRC (TM 11-5805-204-15). The TA-182/U's must be arranged for four-wire operation.

### 3-4. Operation of Shelter Facility Components

Follow the procedures given below to place the S-178(\*)/MRC-69(V) components into operation.

#### *a. Electric Space Heater.*

- (1) Plug the power cord into the HEATER receptacle.
- (2) Operate the heater controls as described on the instruction plate of the heater.

**Caution:** Open the air filter in the door and blower vent covers on the front of the S-178(\*)/MRC-69(V) before operating the blowers.

*b. Exhaust Blowers.* Operate either circuit breaker 8—BLOWER 1 or circuit breaker 9—BLOWER 2, or both circuit breakers, to ON.

### 3-5. Stopping Procedures

*Note:* To turn the power off in an emergency, operate the MAIN circuit breaker to OFF.

*a. Major Components.* Refer to the applicable technical manuals (appx I) for the stopping

procedures of the radio, carrier, and telephone components. Except in an emergency, turn off all components before the associated circuit breakers in the power distribution panel are operated to OFF.

#### *b. S-178(\*)/MRC-69(V) Components.*

- (1) *Electric heater.* Adjust the heater thermostat control to its lowest setting; turn off the heater as described on the instruction plate.

*Note:* After the communication components and the electric heater have been turned off, allow the blowers to remain in operation for at least 10 minutes before completing the stopping procedures and closing the shelter door.

- (2) *Exhaust blowers.* Operate circuit breaker 8—BLOWER 1 and circuit breaker 9—BLOWER 2 to OFF. Close the air filter in the door and the blower vent covers on the front of the shelter facility.
- (3) *Intercommunication Station LS-147 (C)/FI.* Operate the OFF-SEND switch to OFF.
- (4) *TA-182/U's.* Operate the ON-OFF switches (24) on the front wall power duct to OFF.
- (5) *Patch cords.* Remove all patch cords from the patch panel and store them in a storage drawer.
- (6) *Circuit breakers and light switches.* Operate all light switches and circuit breakers to OFF.

### 3-6. Operation Under Adverse Climatic Conditions

*a. General.* The equipment can be operated in extremely cold or hot climates. The AN/MRC-69(V) offers complete protection from the elements for personnel and equipment; however, the precautions given in *b*, *c*, and *d* below should be observed.

#### *b. Operation in Cold Climates.*

- (1) Extreme cold causes cables and field wires to become hard, brittle, and difficult to handle. Be careful when handling the cables and when connecting them to the AN/MRC-69(V) so that kinks and unnecessary

loops will not result in permanent damage.

- (2) Make sure that the binding posts and cable receptacles on the outside of the AN/MRC-69(V) are free of frost, snow, and ice by closing the covers on the entrance boxes when they are not in use.

*c. Operation in Hot Climates.*

- (1) In hot, dry climates, the connectors, receptacles, and binding posts are subject to damage from dirt and dust. Close the covers on the entrance boxes when they are not in use and replace the covers on the cable connectors. Never drag or place an open connector on the ground.

- (2) Remove the filter in the door periodically to be sure that it is still serviceable.

*d. Operation in Warm, Damp Climates.*

- (1) In warm, damp climates, the equipment is subject to damage from moisture and fungi. Wipe all moisture and fungi from the exterior of the equipment with a clean cloth.
- (2) The receptacle and connector contacts are susceptible to corrosion that will cause high resistance contact areas. Wipe all receptacle and connector contacts with a clean, dry cloth before connecting them together.

## CHAPTER 4

### MAINTENANCE INSTRUCTIONS

#### Section I. OPERATOR'S MAINTENANCE

##### 4-1. Scope of Operator's Maintenance

The maintenance duties assigned to the operator of the AN/MRC-69(V) are listed below together with a reference to the paragraph covering the specific maintenance function. The duties assigned do not require tools or test equipment other than those issued with the assemblage.

- a. Preventive maintenance checks and services (para 4-4).
- b. Cleaning and touchup painting (para 4-5).
- c. Troubleshooting (para 4-6 and 4-7).

##### 4-2. General

*Note:* Refer to TM 750-244-2 for proper procedures for destruction of this equipment to prevent enemy use.

a. Operator/crew preventive maintenance is the systematic care, servicing and inspection of equipment to prevent the occurrence of trouble, to reduce downtime, and to maintain equipment in serviceable condition. To be sure that your radio terminal set is always ready for your mission, you must do scheduled preventive maintenance checks and services (PMCS).

- (1) BEFORE OPERATION, perform your B PMCS to be sure that your equipment is ready to go.
  - (2) When an item of equipment is reinstalled after removal, for any reason, perform the necessary B PMCS to be sure the item meets the readiness reporting criteria.
  - (3) Use the ITEM NO. column in the PMCS table to get the number to be used in TM ITEM NO. column on DA Form 2404 (Equipment Inspection and Maintenance Worksheet) when you fill out the form.
- b. Routine checks like CLEANING, PRESERVATION, DUSTING, WASHING, CHECKING FOR FRAYED CABLES, STOWING ITEMS NOT IN USE, COVERING UNUSED RECEPTACLES, CHECKING FOR COMPLETENESS,

and CHECKING FOR LOOSE NUTS AND BOLTS are not listed as PMCS checks. They are things that you should do any time you see they must be done. If you find a routine check like one of those listed in your PMCS, it is because other operators reported problems with this item.

*Note:* When you are doing any PMCS or routine checks, keep in mind the warnings and cautions.

**Warnings:** Never operate the generator or shelter until it has been properly grounded. Electrical defects in the load lines or equipment can cause death by electrocution when contact is made with an ungrounded system.

- Adequate ventilation should be provided while using TRICHLOROTRIFLUOROETHANE. Prolonged breathing of vapor should be avoided. The solvent should not be used near heat or open flame; the products of decomposition are toxic and irritating. Since TRICHLOROTRIFLUOROETHANE dissolves natural oils, prolonged contact with skin should be avoided. When necessary, use gloves which the solvent cannot penetrate. If the solvent is taken internally, consult a physician immediately.

- Compressed air is dangerous and can cause serious bodily harm if protective means or methods are not observed to prevent a chip or particle (of whatever size) from being blown into the eyes or unbroken skin of the operator or other personnel. Goggles must be worn at all times while cleaning with compressed air. Compressed air shall not be used for cleaning purposes except where reduced to less than 29 pounds per square inch gage (psig) and then only with effective chip guarding and personnel protective equipment. Do not use compressed air to dry parts when trichlorotrifluoroethane has been used.

**Notes:** The PROCEDURES column in your PMCS charts instruct how to perform the required checks and services. Carefully follow these instructions and, if tools are needed or the chart so instructs, get organizational maintenance to do the necessary work.

If your equipment must be in operation all the time, check those items that can be checked and serviced without disturbing operation. Make the complete checks and services when the equipment can be shut down.

c. Deficiencies that cannot be corrected must be reported to a higher category maintenance

personnel. Records and reports of preventive maintenance must be made in accordance with procedures given in TM 38-750.

#### 4-3. Operator/Crew Preventive Maintenance Checks and Services

Perform before operation PMCS if you are operating the item for the first time.

**Note:** The checks in the interval column are to be performed in the order listed.

#### 4-4. Operator/Crew Preventive Maintenance Checks and Services Chart

##### B — Before

Item No.	Interval	Item to be Inspected	Procedures — Check for and have repaired and adjusted as necessary	Equipment is not Ready/Available If:
	B			
1	●	Mission Essential Equipment	Check for completeness and satisfactory condition of the equipment. Report missing items.	Available equipment is insufficient to support the combat mission.
2	●	Grounding	Check ground rods and grounding connections.	If grounding procedures of paragraph 2-19 cannot be met.
3	*	Telephone Terminals AN/TCC-50 and AN/TCC-7	Perform operational check as described in TM 11-2319-10.	Fails to transmit or receive.
4	*	Intercommunication Circuit LS-147C/FI	Perform operational checks as described in TM 11-5830-221-12.	Fails to communicate.
5	*	Radio Equipment	Perform operational checks as described in TM 11-5820-287-12.	Radio set inoperative.
6	*	Telegraph - Telephone Signal Converter TA-182/U(24 each)	Perform operational check as described in TM 11-5805-247-12.	Fails to provide ringing signal.
7	*	Telephone Set TA-312/PT	Perform operational checks as described in TM 11-5805-201-12.	Constant ring or fails to provide intelligible communications.

\*Do this check before each deployment to a mission location. This will permit any existing problems to be corrected before the mission starts. The check does not need to be done again until redeployment.



#### 4-5. Cleaning and Touchup Painting

**Warning:** Adequate ventilation should be provided while using TRICHLOROTRIFLUOROETHANE. Prolonged breathing of vapor should be avoided. The solvent should not be used near heat or open flame; the products of decomposition are toxic and irritating. Since TRICHLOROTRIFLUOROETHANE dissolves natural oils, prolonged contact with skin should be avoided. When necessary, use gloves which the solvent cannot penetrate. If the solvent is taken internally, consult a physician immediately.

*a. Cleaning.* Use a dry, clean, lint-free cloth or brush to remove dust and dirt. If necessary, moisten the cloth or brush with Cleaning Compound (NSN 6850-00-105-3084) to remove grease, oil and ground-in dirt and dust. After cleaning, wipe dry with a cloth.

**Caution:** Paint per MIL-E-46061 (MO) has been used on the exterior of some shelters to lower the inside temperature when the shelter

is located in the direct rays of the sun. Before doing any touchup painting on the shelter exterior, check for a caution notice inside the shelter door. Do not use any other type of paint for touchup if the shelter has been painted with paint per MIL-E-46061 (MO).

*b. Touchup Painting.* Remove rust and corrosion from metal surfaces by lightly sanding them with fine sandpaper. Brush two thin coats of the proper paint on the bare metal to protect it from further corrosion. Refer to the applicable cleaning and refinishing practices specified in TB SIG 364.

#### 4-6. Operator's Troubleshooting

To use the troubleshooting chart below, locate your trouble in the trouble symptom column. Perform the checks and corrective measures. If the corrective section does not result in correction of the trouble, a higher maintenance level is required.

Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
1	Neon lamp (E, fig. 6-1) fails to light.	<p>a. Defective lamp.</p> <p>b. Poorly seated power cable connector.</p> <p>c. Defective NEON socket or switch.</p> <p>d. No 115-volt ac input.</p>	<p>a. Replace neon lamp (para 4-7).</p> <p>b. Check seating of power cable connector in signal and power entrance box (fig. 1-6 and para 2-19).</p> <p>c. Request higher level maintenance.</p> <p>d. Check power source (para 2-19).</p>
2	<p>a. Voltmeter indicates no voltage.</p> <p>b. Voltage indication is abnormally high or low.</p>	<p>a. Defective power distribution panel.</p> <p>b. Defective power source.</p>	<p>a. Request higher level maintenance.</p> <p>b. Check power source (para 2-19).</p>
3	LIGHTS & INTERCOM glowlamp fails to light.	<p>a. Defective neon lamp.</p> <p>b. Defective power distribution panel.</p>	<p>a. Replace neon lamp.</p> <p>b. Request higher level maintenance.</p>
4	Fluorescent lamps fail to light.	<p>a. Defective lamps.</p> <p>b. Defective starters.</p>	<p>a. Replace fluorescent lamps.</p> <p>b. Replace starters.</p>
5	a. Ammeter indicates 0 ampere.	a. Defective power distribution panel.	a. Request higher level maintenance.



Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
	b. Ammeter indication is abnormally high.	b. One or more circuit breakers besides the MAIN and LIGHTS & INTERCOM circuit breakers at ON.	b. Operate all circuit breakers except the MAIN and LIGHTS & INTERCOM circuit breakers to OFF and check ammeter. If the indication is still abnormally high, operate the MAIN and -LIGHTS & INTERCOM circuit breakers to OFF and request higher level maintenance.
6	Fluorescent lamps are not extinguished when door is opened.	NORMAL-BLACKOUT switch in NORMAL position.	a. Operate NORMAL-BLACKOUT switch to BLACKOUT.
7	Fluorescent lamps fail to light.	Defective NORMAL-BLACKOUT switch.	b. Request higher level maintenance. Request higher level maintenance.
8	BLOWER 1 glowlamp fails to light and/or blower No. 1 fails to operate.	a. Defective neon lamp. b. Defective power distribution panel. c. Defective blower.	a. Replace neon lamp. b. Request higher level maintenance. c. Request higher level maintenance.
9	BLOWER 2 glowlamp fails to light and/or blower No. 2 fails to operate.	a. Defective neon lamp.  b. Defective power distribution panel. c. Defective blower.	a. Replace neon lamp.  b. Request higher level maintenance. c. Request higher level maintenance.
10	HEATER glowlamp fails to light.	a. Defective neon lamp. b. Defective power distribution panel.	a. Replace neon lamp. b. Request higher level maintenance.
11	a. No air is expelled from front of heater.	a. Defective heater.	a. Replace heater and request higher level maintenance for defective heater.
	b. Air is not heated -----	b. Defective heater.	b. Replace heater and request higher level maintenance for defective heater.
	c. Heater continues to heat after desired temperature has been reached.	c. Defective heater.	c. Replace heater and request higher level maintenance for defective heater.
12	CONVENIENCE RECEPTACLE glowlamp fails to light.	a. Defective neon lamp. b. Defective power distribution panel.	a. Replace neon lamp. b. Request higher level maintenance.
13	AN/TCC-7 1 glowlamp fails to light.	a. Defective neon lamp.  b. Defective power distribution lamp.	a. Replace neon lamp.  b. Request higher level maintenance.
14	AN/TCC-7 terminal (system 1) fails to operate properly.	AN/TCC-7 defective.	a. Refer to TM 11-2139-10 and make authorized repairs only.  b. Replace component (TM 11-2139-10) and refer defective component to higher level for repair.

Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
15	AN/TCC-7 2 glowlamp fails to light.	a. Defective neon lamp.	a. Replace neon lamp. ■
		b. Defective power distribution panel.	b. Request higher level maintenance. ■
16	AN/TCC-50 terminal (system 2) fails to operate properly.	AN/TCC-50 defective.	a. Refer to TM-11-2139-10 and make authorized repairs only. ■ b. Replace component (TM 11-2139-10) and refer defective component to higher level for repair.
17	LS-147C/FI fails to operate properly.	LS-147C/FI defective.	a. Refer to TM 11-5830-221-12 and make authorized repairs only. ■ b. Replace the LS-147C/FI and refer defective unit to higher level for repair.
18	AN/TRC-24 1 glowlamp fails to light.	a. Defective neon lamp.	a. Replace neon lamp. ■
		b. Defective power distribution panel.	b. Request higher level maintenance. ■
19	AN/TRC-24 2 glowlamp fails to light.	a. Defective neon lamp.	a. Replace neon lamp. ■
		b. Defective power distribution panel.	b. Request higher level maintenance. ■
20	Radio equipment (system 1 or system 2) fails to operate properly.	Defective radio equipment.	a. Refer to TM 11-5820-287-12 and make authorized repairs only. ■ b. Replace component (TM 11-5820-287-12) and refer defective component to higher level for repair.
21	TA-182/U system 1 glowlamp fails to light.	a. Defective neon lamp.	a. Replace neon lamp. ■
		b. Defective power distribution panel.	b. Request higher level maintenance. ■
22	TA-182/U system 2 glowlamp fails to light.	a. Defective neon lamp.	a. Replace neon lamp. ■
		b. Defective power distribution panel.	b. Request higher level maintenance. ■
23	One or more glowlamps (TA-182/U's for system 1) fail to light.	a. Defective neon lamps.	a. Replace neon lamps. ■
		b. Defective wall switches.	b. Request higher level maintenance. ■
24	One or more glowlamps (TA-182/U's for system 2) fail to light.	a. Defective neon lamps.	a. Replace neon lamps. ■
		b. Defective wall switches.	b. Request higher level maintenance. ■
25	One or more TA-182/U's (system 1 or system 2) fail to operate properly.	Defective TA-182/U's.	a. Refer to TM 11-5805-247-12 and make authorized repairs only. ■ b. Replace TA-182/U and refer defective unit to higher level for repair.
26	TA-312/PT fails to operate properly.	a. Weak defective Batteries BA-30.	a. Replace Batteries BA-30 (TM 11-5805-201-12). ■
		b. Defective TA-312/PT.	b. Replace TA-312/PT and refer it to higher level for repair. ■

#### 4-7. Operator's Removal and Replacement Procedures

*a. Shelter Facility Replacement Parts.* The only shelter facility parts authorized for replacement by the operator are the fluorescent lamps, lamp starters, power distribution panel glowlamps, the NEON lamp, hand lantern, and extension light incandescent lamps. The procedures for removal and replacement of all of the above items are evident upon inspection.

*b. Communication Equipment Replacement Parts.* Refer to the applicable technical manual (appx I) for the removal and replacement of the operator's replacement parts of the radio equipment, carrier equipment, and telephone equipment. To remove the communication equipments mounted in the shelter facility equipment racks, reverse the applicable installation procedures given in paragraphs 2-3 through 2-8.

### Section II. ORGANIZATIONAL MAINTENANCE

#### 4-8. Scope of Organizational Maintenance

Organizational preventive maintenance procedures are designed to help maintain equipment in serviceable condition. They include items to be checked and how to check them. These checks and services, described in paragraph

4-9, outline inspections that are to be made at specific weekly (W), monthly (M) and quarterly (Q) intervals.

#### 4-9. Organizational Preventive Maintenance Checks and Services Chart

M — Monthly

Q — Quarterly

Item No.	Interval		Item to be Inspected	Procedures
	M	Q		
1	•		Grounding System	Clean ground lug connections.
2		•	Batteries and Hand Lantern	Clean battery compartment of dirt and corrosion and replace batteries that are weak or show signs of swelling, leakage or corrosion.
3	•		Exhaust Blowers	Lubricate motor with general purpose (PL - Special) or Lubricating Oil, Internal Combustion Engine (OE-10).
4	•		Telephone Terminals AN/TCC-50 and AN/TCC-7	Perform organizational checks as described in TM 11-2139-20.
5	•		Telephone Set TA-312/PT	Perform organizational checks as described in TM 11-5805-201-12.
6	•		Intercommunication Circuit LS-147C/FI	Perform organizational checks as described in TM 11-5830-221-12.
7	•		Radio Equipment	Perform organizational checks as described in TM 11-5820-287-20.
8	•		Telegraph - Telephone Signal Converter TA-182/U (24 each)	Perform organizational checks as described in TM 11-5805-247-12.
9		•	Fire Extinguisher	Replace if seal is broken.
10		•	First Aid Kit	Check for completeness.

All data on pages 54 and 55 including paragraph 4-10 deleted.





Paragraph 4-10 deleted.

#### 4-11. Organizational Troubleshooting, General

The systematic troubleshooting procedure begins with a visual inspection performed at the operator's maintenance level and is completed by localizing and isolating techniques. Localization (*a* below) means tracing the trouble to a defective circuit or component. If the trouble has been localized to a major component, follow the troubleshooting instructions given in the appropriate technical manual (appx I). If the trouble has been localized to a defective S-178(\*)/MRC-69(V) circuit or component, use the isolation techniques (*b* below) to locate the defective part.

*a. Localization.* In general, each circuit or component in the AN/MRC-69(V) is separated from all others electrically and functionally. A trouble in any of the circuit or components can usually be localized by use of the methods given below.

- (1) *Visual inspection.* The purpose of visual inspection is to locate troubles without the use of tests or measurements. Look for burned, charred, or otherwise damaged parts or wiring in an attempt to localize their trouble to a particular circuit or component.
- (2) *Operational tests.* Operational tests frequently indicate an abnormally operating circuit. In many instances, the tests will be helpful in determining the exact nature of the trouble. When an abnormal indication has been observed, refer to the troubleshooting chart (para 4-12) to localize the defective circuit or component.

*b. Isolation of Defective Part.* When a trouble has been localized to a defective circuit or component, use the following techniques to isolate the defective part.

- (1) *Continuity and voltage checks.* Make voltage and continuity checks at outlets, receptacles, connector pins, and other points related to the circuit or component. Refer to the S-178(\*)

/MRC-102(V) power schematic-wiring diagram (fig. 6-5) to trace circuits.

- (2) *Signal tracing.* Trace signals and make voltage checks if the trouble has been localized to a defective signal circuit. Use the AN/MRC 69(V) signal schematic-wiring diagram (fig. 6-3 and 6-4) to trace circuits.

#### 4-12. Organizational Troubleshooting Chart

Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
1	Neon lamp fails to light.	a. Defective Neon switch. b. Defective socket.	a. Check NEON switch and replace if necessary. b. Check socket and replace if necessary.
2	Voltmeter indication is 0 volt.	a. Defective meter M1. b. Defective MAIN circuit breaker.	a. Check meter M1 and replace if necessary (para 4-16). b. Check MAIN circuit breaker and replace if necessary (para 4-16).
3	LIGHTS and INTERCOM glowlamp fails to light.	a. Defective socket XDS1. b. Defective circuit breaker.	a. Check socket XDS1 and replace if necessary. b. Check circuit breaker and replace if necessary (para 4-16).
4	Fluorescent lamps fail to light.	a. Defective FLUOSCENTS switch or NORMAL-BLACK-OUT switch. b. Defective light fixture.	a. Check switches and replace if necessary. b. Check light fixtures and repair or replace if necessary (para 4-18).
5	a. Ammeter indication is 0 ampere. b. Ammeter indication is abnormally high.	a. Defective meter M2 or transformer T1. b. Defective wiring.	a. Check meter M2 and transformer T1 and replace if necessary (para 4-16). b. Check wiring and repair if necessary (fig. 6-5).
6	Fluorescent lights are not extinguished when door is opened.	Defective door microswitch.	Check door microswitch and replace if necessary.
7	Fluorescent lights fail to light.	Defective NORMAL-BLACKOUT switch.	Check switch and replace if necessary.
8	BLOWER 1 glowlamp fails to light and/or blower No. 1 fails to operate.	a. Defective socket XDS8. b. Defective circuit breaker. c. Defective blower No. 1. d. Defective wiring at power duct.	a. Check socket XDS8 and replace if necessary. b. Check circuit breaker and replace if necessary (para 4-16). c. Check blower No. 1 and repair if necessary (para 4-15). d. Check wiring and repair if necessary.
9	BLOWER 2 glowlamp fails to light and/or blower No. 2 fails to operate.	a. Defective socket XDS9. b. Defective circuit breaker. c. Defective blower No. 2. d. Defective wiring at power duct.	a. Check socket XDS9 and replace if necessary. b. Check circuit breaker and replace if necessary. c. Check blower No. 2 and repair if necessary (para 4-15). d. Check wiring and repair if necessary.

Change 3

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Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
10	Heaters glowlamp fails to light.	a. Defective socket XDS12. b. Defective circuit breaker.	a. Check socket XDS12 and replace if necessary. b. Check circuit breaker and replace if necessary (para 4-16).
11	a. No air is expelled from heater.  b. Air is not heated.	a. The following may be defective: (1) HEATER outlet. (2) Heater controls. (3) Heater (internal) circuit breaker. (4) Motor.  b. The following may be defective: (1) Heater controls. (2) Temperature control thermostat. (3) Heating element.	a. Check the following: (1) HEATER outlet and replace if necessary. (2) Control switches and replace if necessary (para 4-14). (3) Internal circuit breaker and replace if necessary (para 4-14). (4) Motor and replace if necessary (para 4-14). b. Check the following: (1) Control switches and replace if necessary (para 4-14). (2) Temperature control thermostat and replace if necessary (para 4-14). (3) Heating element and replace if necessary (para 4-14).
12	CONVENIENCE RE-CEPTACLE glowlamp fails to light.	a. Defective socket XDS11. b. Defective circuit breaker.	a. Check socket XDS11 and replace if necessary. b. Check circuit breaker and replace if necessary (para 4-16).
13	AN/TCC-7 1 glowlamp XDSH fails to light.	a. Defective socket. b. Defective circuit breaker.	a. Check socket XDS4 and replace if necessary. b. Check circuit breaker and replace if necessary (para 4-16).
14	AN/TCC-7 terminal (system 1) fails to operate.	a. Defective power duct outlet J29. b. Defective AN/TCC-7.	a. Check power duct outlet J29 and replace if necessary. b. Refer to TM 11-2139-20.
15	AN/TCC-7 2 glowlamp fails to light.	a. Defective socket XDS5. b. Defective circuit breaker.	a. Check socket XDS5 and replace if necessary. b. Check circuit breaker and replace if necessary (para 4-16).
16	AN/TCC-50 (system 2) fails to operate properly.	a. Defective power duct outlet J30. b. Defective AN/TCC-50.	a. Check power duct outlet J30 and replace if necessary. b. Refer to TM 11-2139-20.
17	LS-147C/FI fails to operate properly.	a. Defective INTERCOM outlet J24. b. Defective LS-147C/FI.	a. Check INTERCOM outlet J24 and replace if necessary. b. Refer to TM 11-5830-221-12.
18	AN/TRC-24 1 glowlamp fails to light.	a. Defective socket XDS2. b. Defective circuit breaker.	a. Check socket XDS2 and replace if necessary. b. Check circuit breaker and replace if necessary (para 4-16).
19	AN/TRC-24 2 glowlamp fails to light.	a. Defective socket XDS3. b. Defective circuit breaker.	a. Check socket XDS3 and replace if necessary. b. Check circuit breaker and replace if necessary (para 4-16).



Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
20	Radio equipment (system 1 or system 2) fails to operate.	a. Defective outlet J25 or J26.	a. Check outlet J25 and J26 and replace if necessary.
21	TA-182 SYSTEM 1 glow-lamp fails to light.	b. Defective radio equipment. a. Defective socket XDS6. b. Defective circuit breaker.	b. Refer to TM 11-5820-287-20. a. Check socket XDS6 and replace if necessary. b. Check circuit breaker and replace if necessary (para 4-16).
22	TA-182 SYSTEM 2 glow-lamp fails to light.	a. Defective socket XDS7. b. Defective circuit breaker.	a. Check socket XDS7 and replace if necessary. b. Check circuit breaker and replace if necessary (para 4-16).
23	One or more glowlamps (TA-182/U's for system 1) fail to light.	a. One or more defective sockets XDS14 through XDS25. b. One or more defective wall switches S5 through S16.	a. Check sockets XDS14 through XDS25 and replace as necessary. b. Check switches S5 through S16 and replace as necessary (para 4-16).
24	One or more glowlamps (TA-182/U's for system 2) fail to light.	a. One or more defective sockets XDS26 through XDS37. b. One or more defective wall switches S17 through S28.	a. Check sockets XDS26 through XDS37 and replace as necessary. b. Check switches S17 through S28 and replace as necessary (para 4-16).
25	One or more TA-182/U's (system 1 or system 2) fail to operate properly.	a. One or more defective outlets J31 through J42 (system 1) or J43 through J54 (system 2). b. Defective TA-182/U's.	a. Check outlets and replace as necessary. b. Refer to TM 11-5805-247-12.
26	TA-312/PT fails to operate properly.	Defective TA-312/PT.	Refer to TM 11-5805-201-12.

#### 4-13. Organizational Repair Procedures, General

a. *Communication Equipment.* Refer to the applicable technical manual (appx I) for instructions for organizational repair of the radio equipment, carrier equipment, LS-147C/FI, and telephone equipment.

b. *Shelter Facility.*

- (1) When a defective part has been isolated within a component or circuit of the S-178(\*)/MRC-69(V), perform the appropriate repair procedure (para 4-14 through 4-18).
- (2) Refer to TB 75-240 for instructions on the repair of the basic shelter.

#### 4-14. Electric Space Heater Repairs (fig. 4-1 through 4-4)

a. Remove the heater from its mounting base and remove the cover plates to provide ac-

cess to the interior of the heater (fig. 4-1 and 4-3).

b. Refer to the heater instruction plates for circuit details and identification of the heater parts. Replace defective parts as authorized; the parts replacement procedures are readily apparent upon inspection. Figure 4-2 and 4-4 are schematic-wiring diagrams of Electric Space Heaters HD-375/U and AAT-15A, respectively.

#### 4-15. Exhaust Blower Repairs

Organizational repair of the blowers is limited to replacement of the ac power cord and the motor.

a. Operate the appropriate BLOWER circuit breaker to OFF.

b. Replace a defective ac power cord or motor as necessary; the replacement procedures are readily apparent upon inspection.

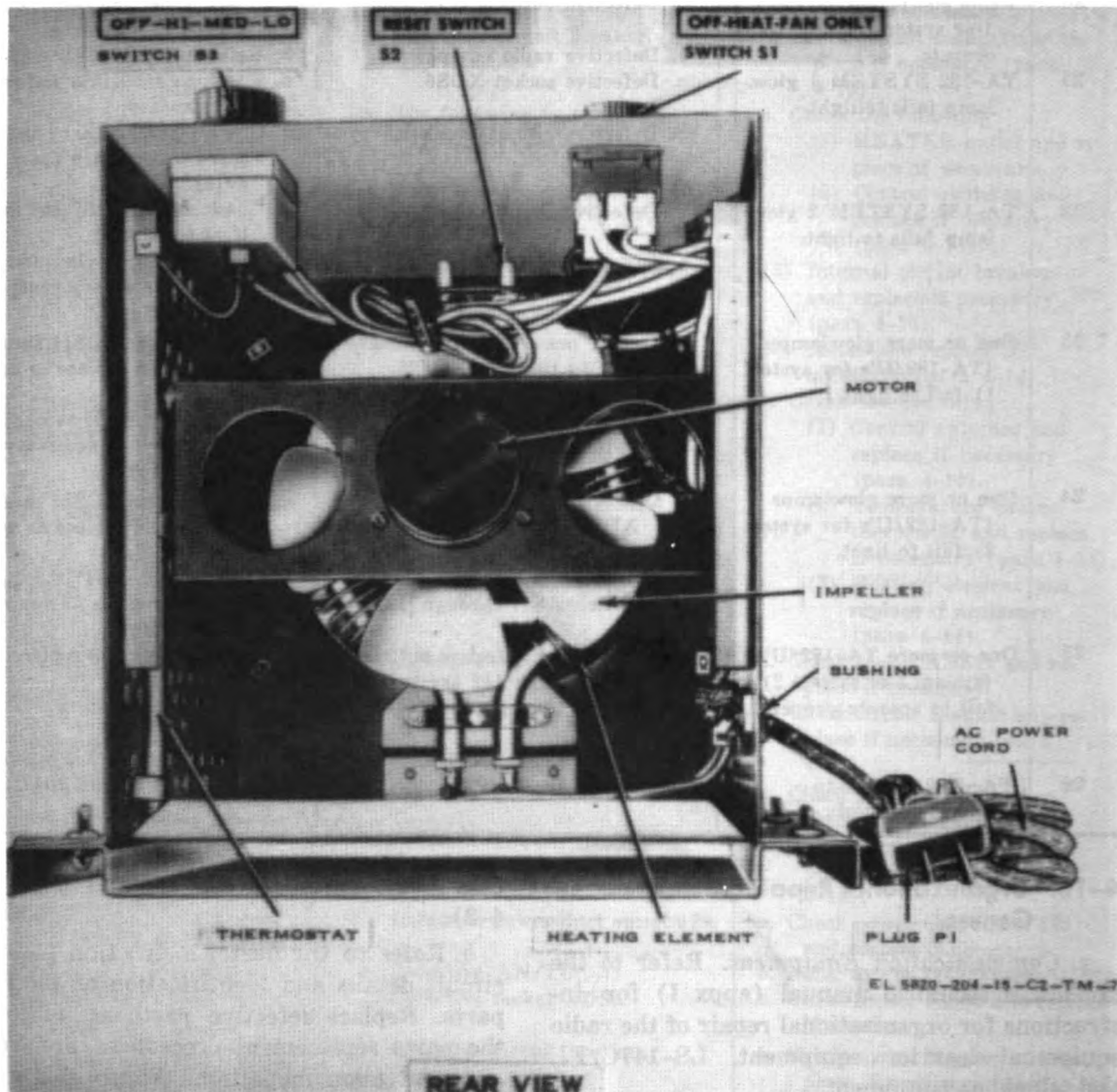


Figure 4-1. Electrical Space Heater HD-375/U, identification of parts.

#### 4-16. Power Distribution Panel Repairs

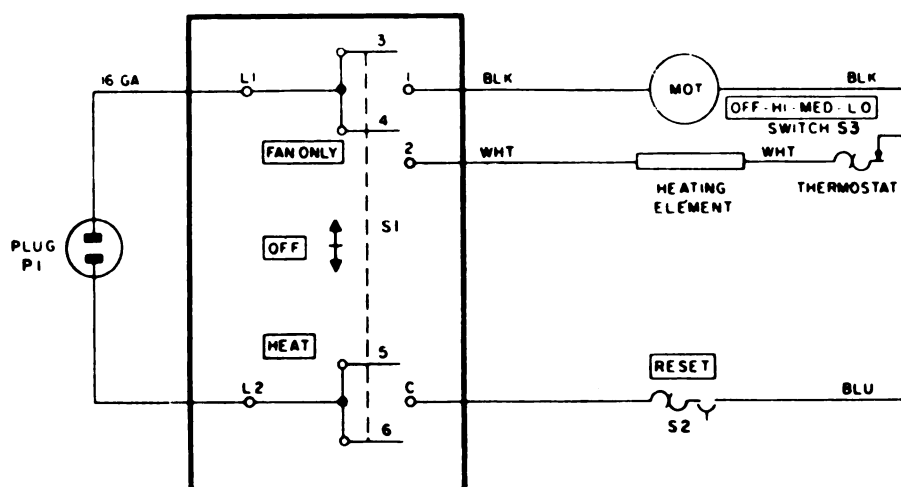
**Warning:** Before performing any power distribution panel repairs, disconnect the ac power cable from the POWER receptacle in the signal and power entrance box.

*a. Preliminary Procedures.* Remove the screws that secure the cover to the power distribution panel, and remove the cover before

performing the procedures given in *b* through *d* below.

*b. Removal and Replacement of Circuit Breaker* (fig. 4-5).

- (1) Grasp the defective circuit breaker and pull it straight out from the panel.
- (2) Disconnect the wires connected to the circuit breaker.



## NOTES:

- 1 ☐ INDICATES EQUIPMENT MARKING
- 2 ALL WIRING IS 14 GAGE UNLESS OTHERWISE INDICATED
- 3 SWITCH S1 CONTACTS 3 THROUGH 6 ARE ARBITRARILY NUMBERED.

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Figure 4-2. Electrical Space Heater HD-375/U, schematic-wiring diagram.

- (3) Connect the wires to the appropriate terminals of the replacement circuit breaker.
- (4) Position the circuit breaker in the power distribution panel and firmly press it into place.

*c. Removal and Replacement of Current Transformer (fig. 4-5).*

- (1) If the meters are mounted on a separate meter panel, remove the screws that secure the meter panel to the power distribution panel.
- (2) Disconnect the black and white leads from the transformer terminals (noting which lead was connected to each terminal).
- (3) Remove the nuts and washers that secure the current transformer inside the panel, and remove the current transformer.

*Note.* Count the number of turns of heavy black wire through the center hole of the current transformer before proceeding to the next step.

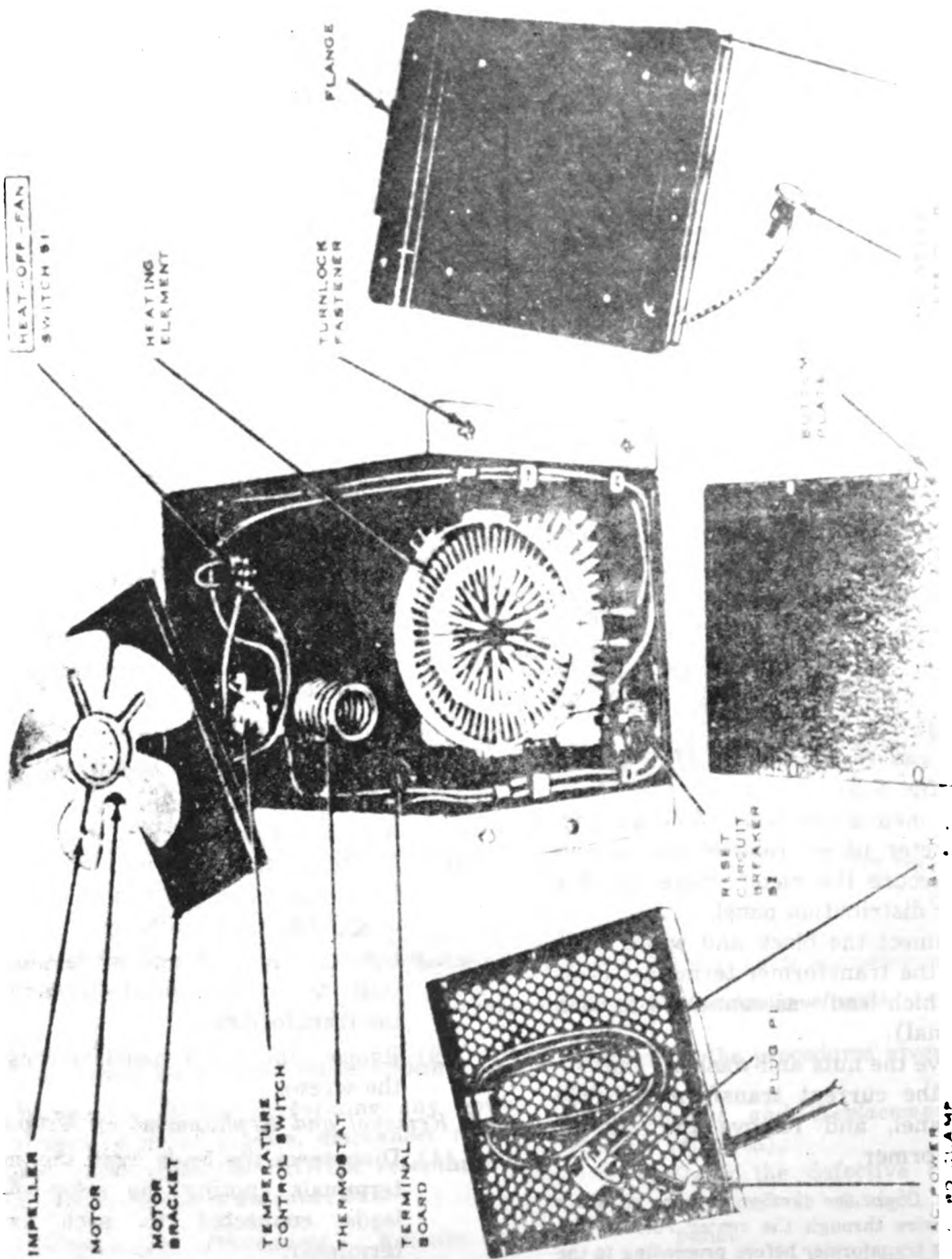
- (4) Disconnect the black wire wound around the current transformer from the MAIN circuit breaker and carefully unwind the wire.

**Caution:** Be sure that the number of turns of black wire around the replacement current transformer is the same as that on the original transformer.

- (5) Wind the black wire around the replacement current transformer.
- (6) Reconnect the black wire to the MAIN circuit breaker.
- (7) Position the current transformer inside the panel and secure it with the original nuts and washers.
- (8) Connect the black and white ammeter leads to the appropriate terminals of the transformer.
- (9) Replace the meter panel and tighten the screws.

*d. Removal and Replacement of Meters.*

- (1) Disconnect the leads from the meter terminals (noting the color of the leads connected to each meter terminal).
- (2) Remove the bolts that secure the meter to the panel, and lift out the meter.
- (3) Position the replacement meter in the panel and secure it with the bolts.



7 4 1 4 1 3 3

Figure 4-3. Electrical Space Heater AAT-15A, identification of parts.

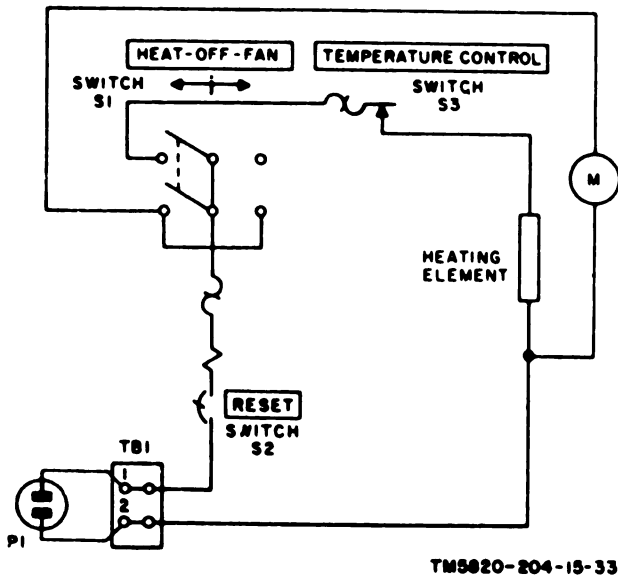


Figure 4-4. Electrical Space Heater AAT-15A,

- (4) Connect the leads to the appropriate terminals of the new meter.

#### 4-17. Repair of Power Cable Connectors and Power Receptacles

##### a. Power Cable Connectors (A and B, fig. 4-6)

- (1) Unscrew the packing nut and slide the packing nut and packing glands away from the connector.
- (2) Unscrew the cap and remove the clamping ring.

**Caution:** Be careful when removing the clamping ring to prevent it from flying and causing serious injury.

- (3) Remove the inserts, body, gasket, and shell from the housing.
- (4) Slide the cable through the housing to provide the necessary slack.
- (5) Solder the contacts on the leads as required.
- (6) Replace the shell, gasket, body, and inserts in the housing.
- (7) Replace the clamping ring.

- (8) Slide the packing glands into position against the housing.
- (9) Replace the packing nut and tighten it securely.
- (10) Replace the cap.

##### b. Power Receptacle (C and D, fig. 4-6).

- (1) Remove the signal and power entrance panel inside the shelter facility.
- (2) Remove the clamping ring from the power receptacle.

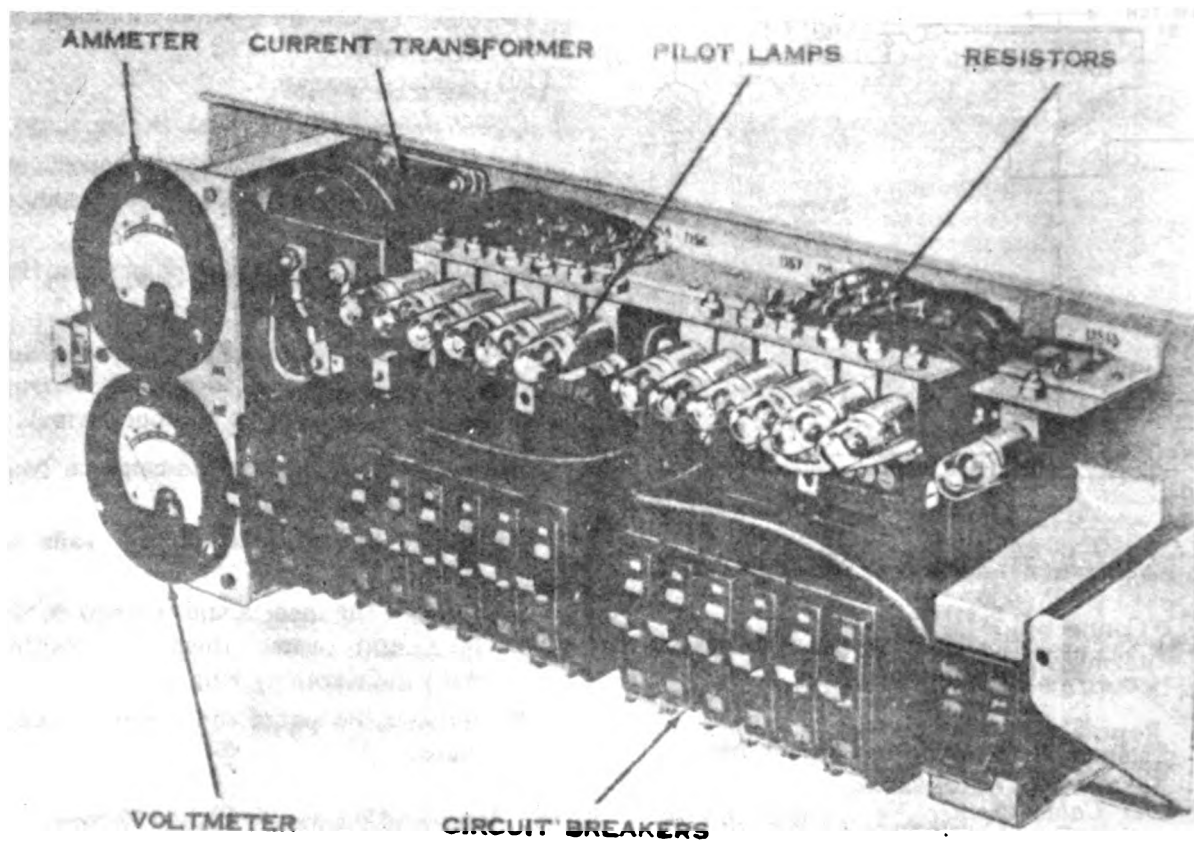
**Caution:** Be careful when removing the clamping ring to prevent it from flying and causing serious injury.

- (3) Remove the inserts and contacts from the receptacle body.
- (4) Solder the contacts on the leads as required.
- (5) Replace the inserts and contacts in the body and secure them in position with the clamping ring.
- (6) Replace the signal and power entrance panel.

#### 4-18. Repair of Fluorescent Light Fixtures

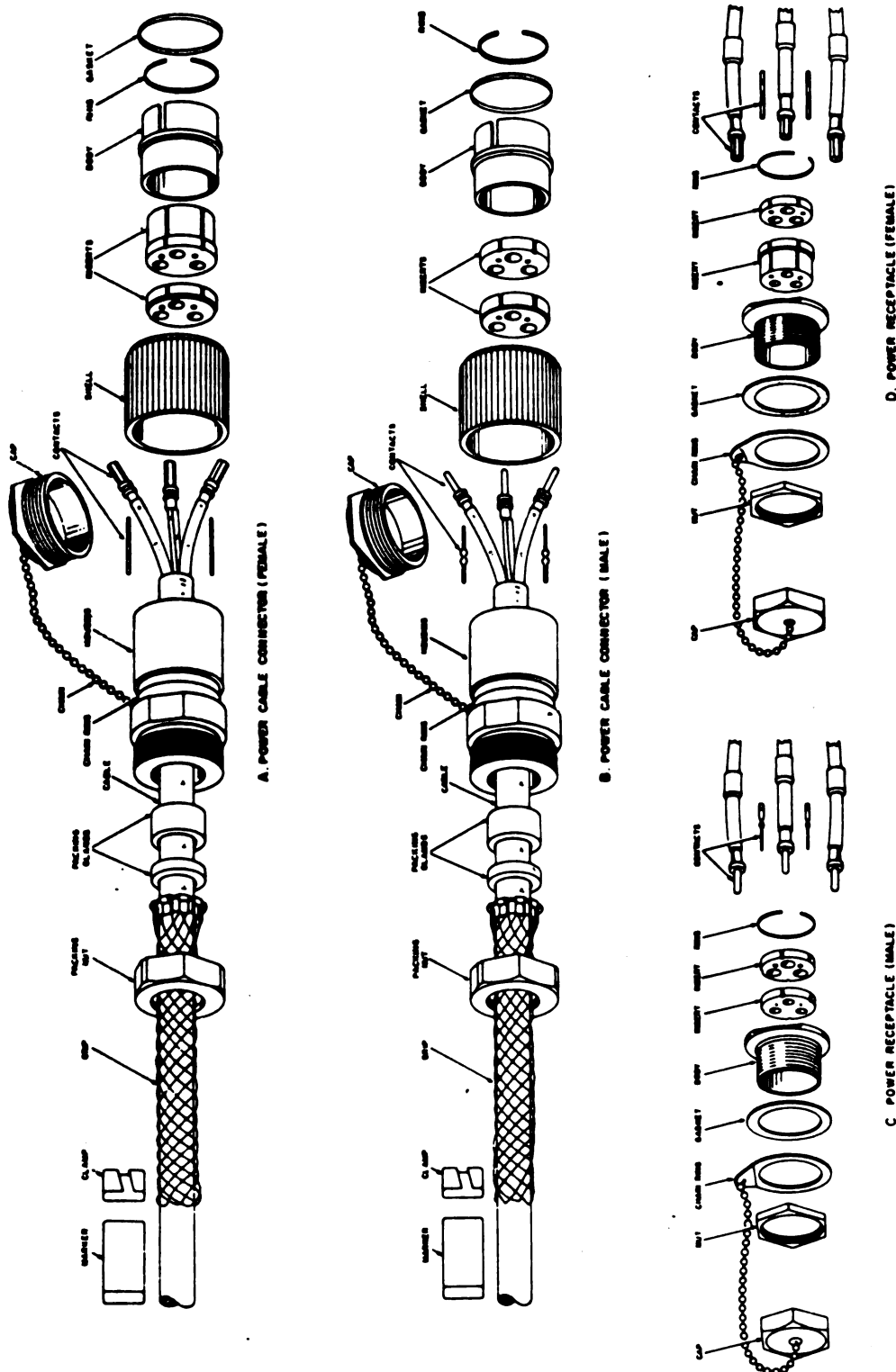
**Note:** The fluorescent light fixtures are fabricated as part of the ceiling power duct (fig. 4-7). The filter capacitors are sealed units and cannot be repaired. They are replaced as complete units.

- a. Remove the light shield and the fluorescent lamp.
- b. Carefully pry off the cover from the power duct.
- c. Label and disconnect the wires from the defective component.
- d. Remove the defective component from the power duct.
- e. Secure the replacement component in the power duct.
- f. Connect the wires to the replacement component (fig. 4-8).
- g. Replace the cover on the power duct.
- h. Replace the fluorescent lamp and the light shield.

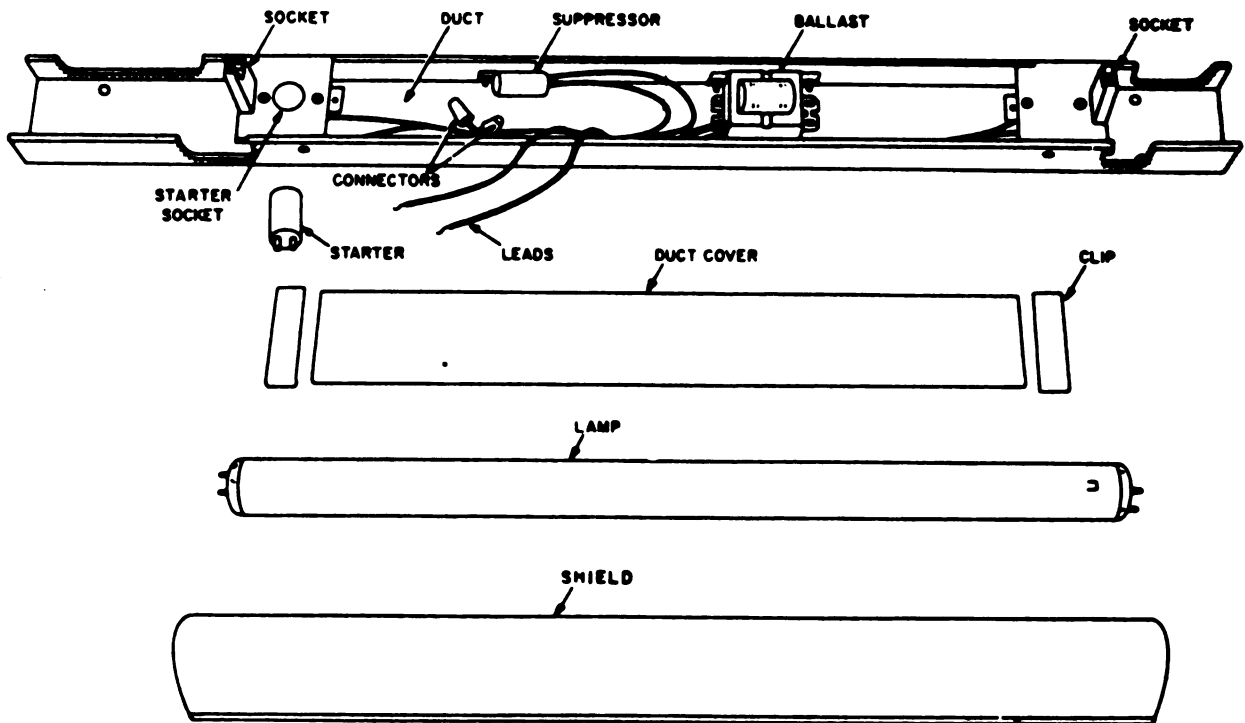


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*Figure 4-5. Power distribution panel, interior view.*

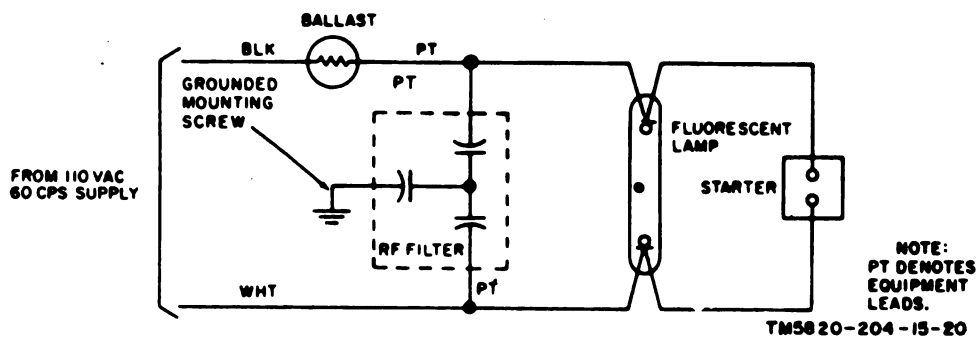


**Figures 4-6. Power cable connectors and receptacles, exploded view.**



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Figure 4-7. Fluorescent light fixture, interior view



TM5820-204-15-20

Figure 4-8. Fluorescent light fixture, schematic diagram.



### Section III. DIRECT AND GENERAL SUPPORT, AND DEPOT MAINTENANCE

#### 4-19. Scope of Direct and General Support and Depot Maintenance

*a. General.* Direct and general support and depot maintenance consists entirely of corrective maintenance procedures as indicated in the maintenance allocation chart (appx II).

*b. Tools and Test Equipment Required.* The tools and test equipment required for direct and general support and depot maintenance of the AN/MRC-69(V) are listed in section III of the maintenance allocation chart (appx II).

#### 4-20. Direct Support Repair Procedures

*a. Communication Equipment Repairs.* Refer to the applicable technical manual (appx I) for instructions in performing direct support maintenance of the radio equipment, carrier equipment, telephone equipment, and LS-147 C/FI.

*b. Shelter, Electrical Equipment S-178(\*)/MRC-69(V) Repairs.* Direct support repair of the S-306(\*)/MRC-69(V) includes the following:

- (1) Emergency repair of holes and minor structural damage to the shelter facility.
- (2) Removal and replacement of the door handle and latchbolt assemblies, entrance door filters, and cover assemblies and gaskets for the blower vents, the signal binding posts box, and the signal and power entrance box.

*Note:* Refer to TB SIG 354 for additional information on direct support maintenance of the shelter facility.

#### 4-21. General Support Repair Procedures

*a. Communication Equipment Repair.* Refer to the applicable technical manual (appx I) for instructions in performing general support maintenance of the radio equipment, carrier equipment, telephone equipment, and LS-147 C/FI.

*b. Shelter, Electrical Equipment S-178(\*)/MRC-69(V) Repair.* Direct support repair of the shelter facility includes the following:

- (1) Replacement of those items included under direct support (para 4-20b) and permanent repair of holes and major structural damage to the shelter. Refer to TB SIG 354 for information on direct support maintenance procedures of the shelter facility.
- (2) The repair and replacement of wiring harness and duct cabling (para 4-22), the repair of Connector, Receptacle, Electrical U-186B/G (para 4-23), the repair of Connector, Receptacle, Electrical U-187A/G (para 4-24), and the repair of Connector, Plug, Electrical U-185B/G (para 4-25).

#### 4-22. Replacement of Wiring Harness and Duct Cabling

The signal wiring of the S-178(\*)/MRC-69(V) consists of six 26-pair cables connected between the 26-pair receptacles in the signal and power entrance box and the binding posts in the signal binding posts box, and eighteen 14-pair cables and two 26-pair cables connected between the signal binding posts box and the major equipments. The cabling connected between the signal binding posts box and the major equipments are located in the signal duct and are secured in place (bunched) by plastic straps placed around the cables at specific intervals. Authorized replacement cables are not identical with those originally furnished in the S-178/MRC-69(V) procured under an earlier order. Replacement procedures are covered in *a* below and color coding of the replacement cables is given in *b* below.

*a. Replacement of Interior Cables.* The interior cables should not be replaced when only one or two pairs have become defective. Use the spare pairs as replacement for the defective pairs.

- (1) If the spare pairs have been used previously and the defect can be located, repair the defect by *splicing*. However, if an entire cable is accidentally cut or damaged beyond repair, or if a cable has been repaired

previously and there is not enough slack to permit another repair, replace the cable.

- (2) To install a replacement cable, first disconnect the defective cable and remove it from the ducts. Cut the new cable to the proper length (same as cable removed), and secure it in the ducts. Connect the new cable; use the color coding given in *b* below, as appropriate.

*b. Cable Color Coding.* The charts given in

(1) below list the color code of each pair in the 14-pair cables supplied in the S-178/MRC-69(V) and the replacement 14-pair cables. The color code of each type of 14-pair cable is arranged to match certain pairs of the 26-pair cable (1 through 14 or 13 through 26). The chart provided in (2) below lists the color code for the 26-pair cables supplied in the S-178:MRC-69(V) (serial numrebs 1 through 428 and 429 through 460) and the replacement cable. Refer to figures 6-3, and 6-4 for the terminal points of the cable pairs.

(1) *Color coding, 14-pair cabling.*

(a) *Type 2, pairs 1 through 14.*

Pair No.	Original cable color code		Replacement cable color code	
	Tip	Ring	Tip	Ring
1	White	Yellow	White	Blue
2	White	Orange	White	Orange
3	White	Black	White	Green
4	White	Pink or red	White	Brown
5	White	Light brown	White	Gray (slate)
6	White	Dark brown	Red	Blue
7	White	Silver	Red	Orange
8	White	Dark green	Red	Green
9	White	Light green	Red	Brown
10	White	Violet	Red	Gray (slate)
11	White	Gray (slate)	Black	Blue
12	White	Light blue	Black	Orange
13	White	Dark blue	Black	Green
14	Black	Red or silver	Black	Brown

(b) *Type 3, pairs 13 through 26.*

Pair No.	Original cable color code		Replacement cable color code	
	Tip	Ring	Tip	Ring
13	White	Dark blue	Black	Green
14	Black	Silver	Black	Brown
15	Black	Gray (slate)	Black	Gray (slate)
16	Black	Light brown	Yellow	Blue
17	Black	Dark brown	Yellow	Orange
18	Black	Yellow	Yellow	Green
19	Black	Light blue	Yellow	Brown
20	Black	Dark blue	Yellow	Gray (slate)
21	Black	Light green	Violet	Blue
22	Black	Dark green	Violet	Orange
23	Black	Orange	Violet	Green
24	Black	Violet	Violet	Brown
25	Black	Red	Violet	Gray (slate)
26	Gray (slate) or Dark blue	Red	White	Red

(2) *Color coding, 26 pair cabling.*

Pair No.	Original cable color code				Replacement cable color code	
	Serial No. 1 through 428 (Order No. 891-PP-57)		Serial No. 429 through 460 (Order No. 891-PP-57) and all subsequent equipments			
	Tip	Ring	Tip	Ring	Tip	Ring
1	White	Yellow	White	Blue	White	Blue
2	White	Orange	White	Orange	White	Orange
3	White	Black	White	Green	White	Green
4	White	Pink or red	White	Green	White	Brown
5	White	Light brown	White	Gray (slate)	White	Gray (slate)
6	White	Dark brown	Red	Blue	Red	Blue
7	White	Silver	Red	Orange	Red	Orange
8	White	Dark green	Red	Green	Red	Green
9	White	Light green	Red	Brown	Red	Brown
10	White	Violet	Red	Gray (slate)	Red	Gray (slate)
11	White	Gray (slate)	Black	Blue	Black	Blue
12	White	Light blue	Black	Orange	Black	Orange
13	White	Dark blue	Black	Green	Black	Green
14	Black	Silver	Black	Brown	Black	Brown
15	Black	Gray (slate)	Black	Gray (slate)	Black	Gray (slate)
16	Black	Light brown	Yellow	Blue	Yellow	Blue
17	Black	Dark brown	Yellow	Orange	Yellow	Orange
18	Black	Yellow	Yellow	Green	Yellow	Green
19	Black	Light blue	Yellow	Brown	Yellow	Brown
20	Black	Dark blue	Yellow	Gray (slate)	Yellow	Gray (slate)
21	Black	Light green	Violet	Blue	Violet	Blue
22	Black	Dark green	Violet	Orange	Violet	Orange
23	Black	Orange	Violet	Green	Violet	Green
24	Black	Violet	Violet	Brown	Violet	Brown
25	Black	Pink or red	Violet	Gray (slate)	Violet	Gray (slate)
26	Dark blue	Pink or red	Silver	Blue	White	Red

**4-23. Repair of Connector, Receptacle,  
Electrical U-186B/G**

(fig. 4-9)

**a. Removal.**

- (1) Secure the cover of the signal and power entrance box in the open position. Remove the dust cover from the connector.
- (2) Remove the cover on the signal and power entrance panel inside the shelter facility. Loosen the cable clamp on the inside of the connector base.
- (3) Remove the contact assembly retaining screws from the underside of the connector housing.
- (4) Lift the contact assembly out of the connector housing. Be careful not to damage the leads.

(5) If necessary, work some slack from the cable through the cable clamp *into* the connector housing.

(6) Disconnect the leads from the contact assembly. Be sure to mark the leads for identification during reassembly.

**b. Reassembly.**

- (1) Position the new contact assembly near the connector housing and reconnect the leads. Check to be sure that each lead is connected to the proper terminal.
- (2) Insert the contact assembly into the connector housing. If necessary, work some of the slack through the cable clamp *out* of the connector housing.

- (3) Replace the contact assembly retaining screws. Check to be sure that the contact assembly is properly seated in the connector housing.
- (4) Tighten the cable clamp on the inside of the connector base and replace the cover on the signal and power entrance panel.
- (5) Replace the connector dust cover and close the cover on the signal and power entrance box.

#### 4-24. Repair of Connector, Receptacle, Electrical U-187A/G

(fig. 4-10)

##### a. Removal.

- (1) Secure the cover of the signal and power entrance box in the open position. Remove the dust cover from the connector.
- (2) Remove the cover on the signal and power entrance panel inside the shelter facility.

- (3) Loosen and remove the two retaining screws that secure the contact assembly in the connector housing.
- (4) Lift the contact assembly out of the connector housing. Be careful not to damage the leads.
- (5) If necessary, work the slack in the cable harness into the connector housing.
- (6) Disconnect the leads from the contact assembly. Be sure to mark the leads for identification during reassembly.

##### b. Reassembly.

- (1) Position the new contact assembly near the connector housing and reconnect the leads. Check to be sure that each lead is connected to the proper terminal.
- (2) Insert the contact assembly into the connector housing. If necessary, work some of the cable harness slack out of the connector housing.

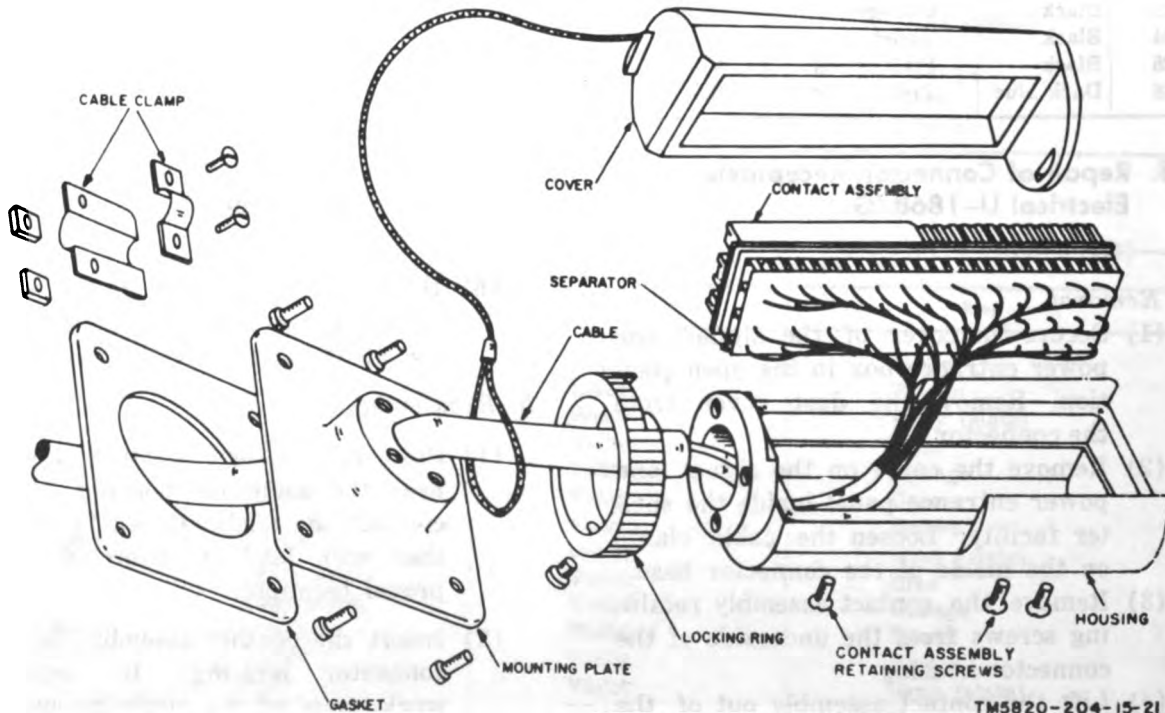
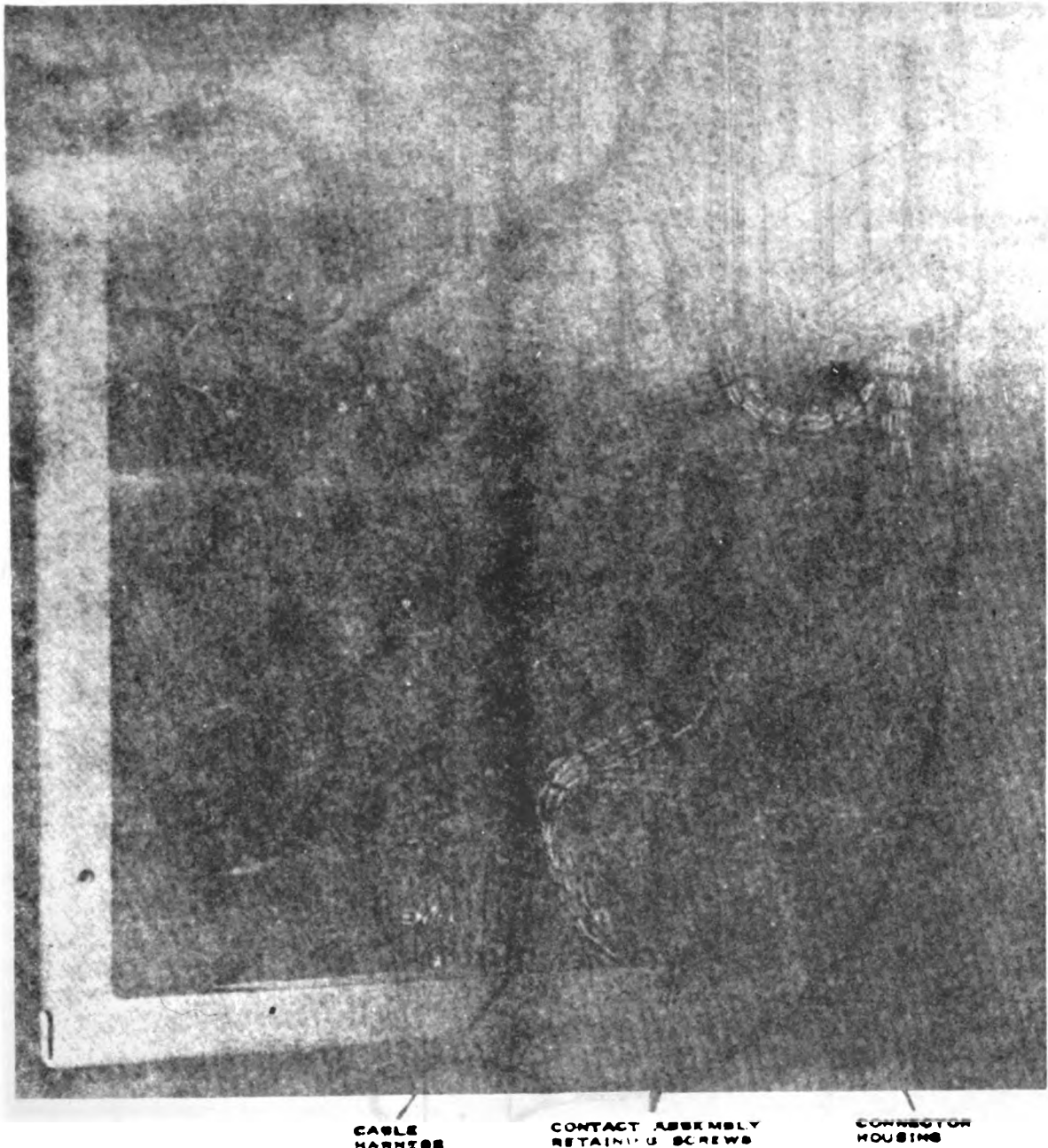


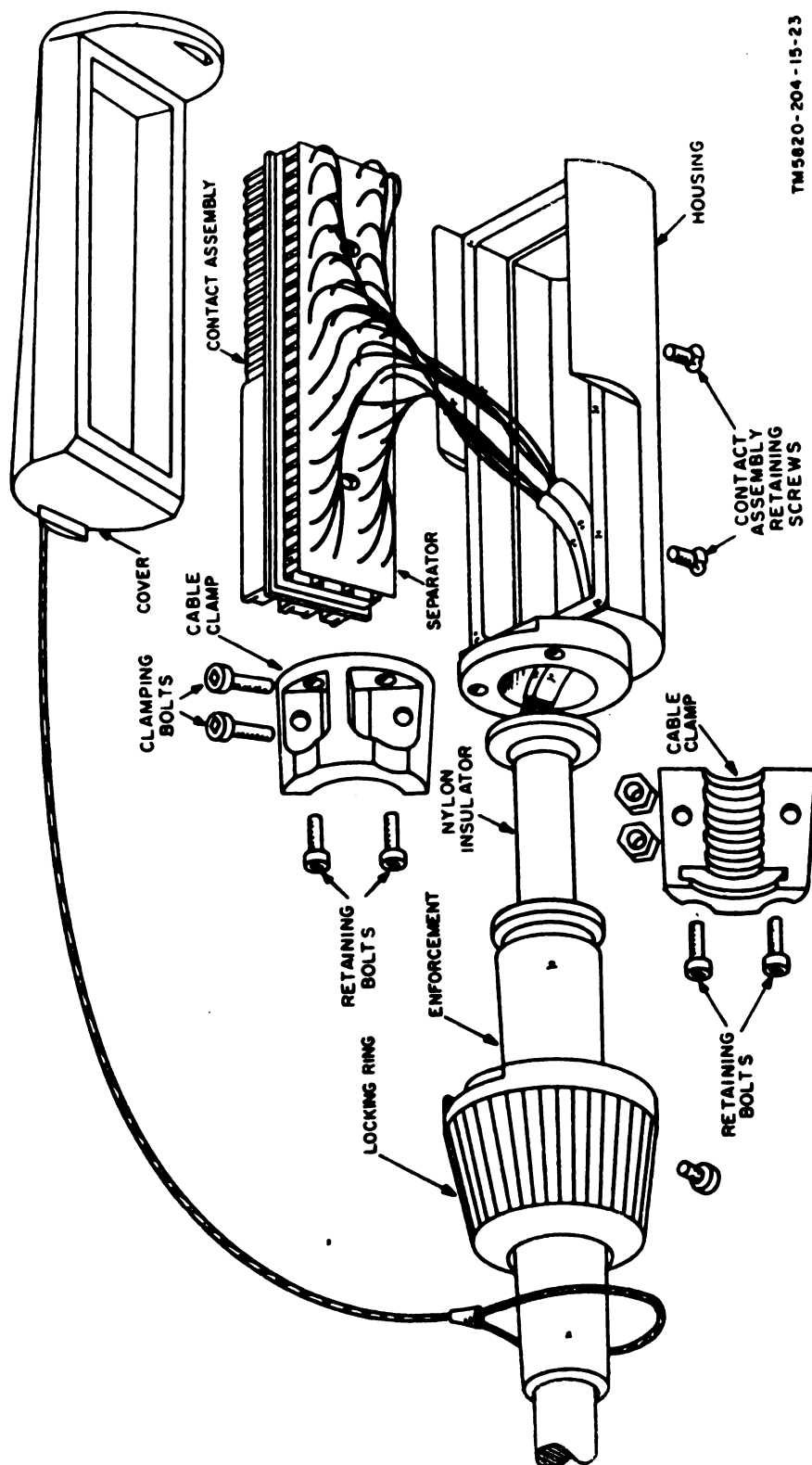
Figure 4-9. Connector, Receptacle, Electrical U-186B/G, exploded view.

- (3) Replace the contact assembly retaining screws. Check to be sure that the contact assembly is properly seated in the connector housing.
- (4) Replace the cover on the signal and power entrance panel.
- (5) Replace the connector dust cover and close the cover on the signal and power entrance box.



TM 11-5820-204-15-1A

Figure 4-10. Connector, Receptacle, Electrical U-187A/G, rear view.



TM 5820-204-15-23

Figure 4-11. Connector, Plug, Electrical U-185B/G, exploded view.

#### 4-25. Repair of Connector, Plug, Electrical U-185B/G

(fig. 4-11)

*a. Disassembly.* Disassemble the connector only as far as necessary to complete the repairs.

- (1) Remove the dust cover from the connector. Remove the retaining screws from the locking ring and slide the locking ring back from the connector.
- (2) Remove the two clamping bolts from the cable clamp.
- (3) Remove the four retaining bolts from the cable clamp.
- (4) Remove the cable clamp.
- (5) Remove the contact assembly retaining screws.
- (6) Slide the strain relief (not shown) and the nylon insulator back onto the cable.
- (7) Work the cable into the housing and lift the contact assembly out of the housing.
- (8) Slide the separator away from the contact assembly and disconnect the leads.

*b. Reassembly.*

- (1) Slide the locking ring onto the cable, if it was removed. Be sure that the wide portion is toward the connector.

- (2) Slide the strain relief onto the cable with the flange toward the connector.
- (3) Slide the nylon insulator onto the cable with the flange toward the connector.
- (4) Slide the end of the cable into the housing.
- (5) Slide the leads through the separator. Check to be sure that they are positioned for proper connection.
- (6) Connect the leads to the contact assembly.
- (7) Replace the contact assembly in the housing. If necessary, work the cable out of the housing to provide clearance for the contact assembly.
- (8) Slide the nylon insulator toward the connector until the flange is flush against the end of the housing.
- (9) Replace the two sections of the cable clamp. Secure them in position with the retaining bolts.
- (10) Replace the clamping bolts and tighten them securely.
- (11) Slide the locking ring into position on the housing and secure it in position with the retaining screw.
- (12) Replace the dust cover on the connector.





## CHAPTER 5

### FUNCTIONING OF AN/MRC-69(V)

#### 5-1. General

(fig. 5-1)

Radio Terminal Set AN/MRC-69(V) contains facilities for two complete 12-channel carrier radio systems or it may operate as two 12-channel carrier landline systems or one 12-channel carrier-radio system and one 12-channel carrier landline system. All channels may be operated on a two-wire or four-wire basis and are equipped with vf signaling. Twelve filters are provided for use in speech-plus-duplex circuits, as required. The filters may be patched at either the AN/MRC-69(V) or at the SB-611/MRC (TM 11-5805-204-15). Internal wiring in the S-178(\*)/MRC-69(V) is provided to extend the circuit capabilities of each system of the AN/MRC-69(V) to 24 channels when the additional equipment is furnished.

#### 5-2. Signal Circuits

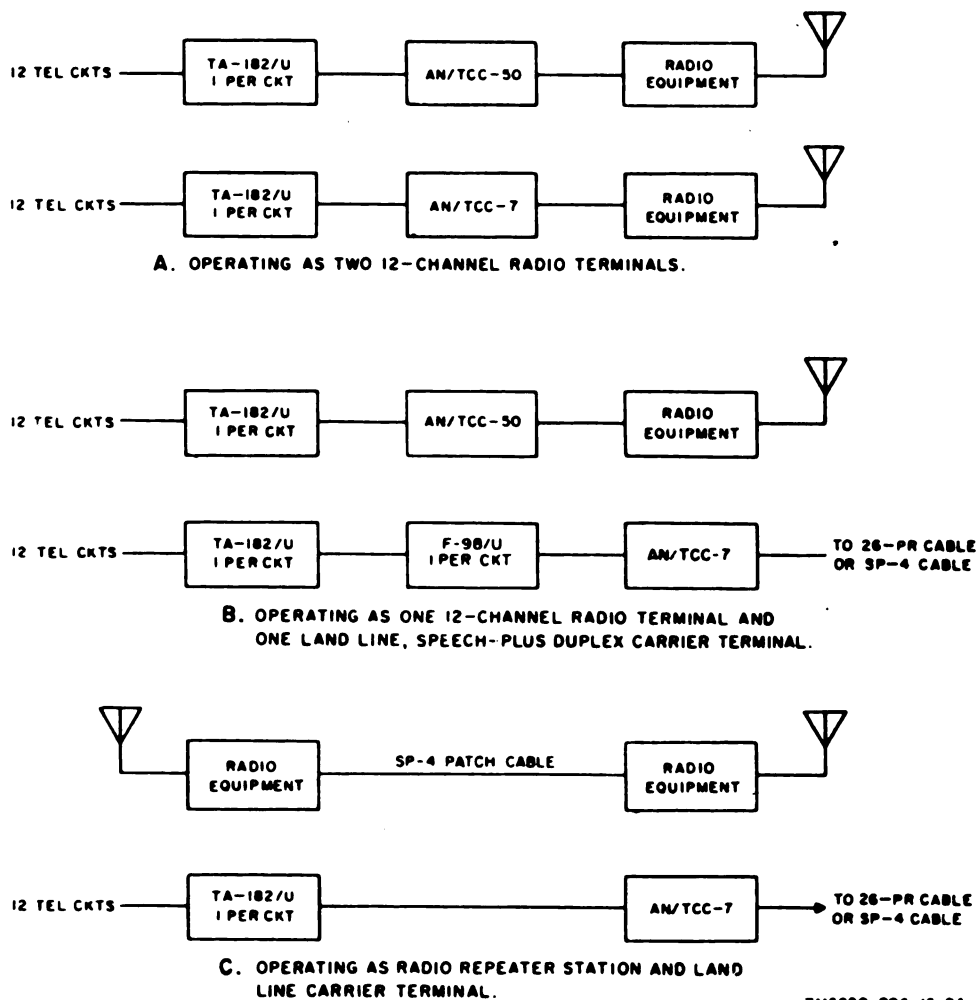
(fig. 6-3)

*a. Carrier Telephone Circuits.* The AN/TCC-7 (system 1) and the AN/TCC-50 (system 2) both change their respective 12 individual voice-frequency telephone circuits into one broadband carrier frequency circuit. In-band signaling is provided for the 12 telephone circuits of each system by the TA-182/U's. The telephone circuits (loops) may be operated on a two-wire ((1) below) or four-wire ((2) below) basis. The carrier line side of the AN/TCC-7 or the AN/TCC-50 may be extended to the distant terminal by spiral-four cables or over radio facilities (b below).

- (1) *Two-wire operation.* In two-wire operation, both directions of transmission in the loop are over one pair of wires. The 12 loops of system 1 and system 2 are connected to the AN/

MRC-69(V) at contacts 1 through 12 of 26-pair receptacle SIGNAL 1 and SIGNAL 2, respectively, to the signal and power entrance box or the corresponding paralleled-connected binding posts in the signal binding posts box. Wiring within the AN/MRC-69(V) connects the loops of each system to the LOOP sides of the 12 TA-182/U's. The LINE side of each TA-182/U is connected to the appropriate AN/TCC-7 or AN/TCC-50 channel through a normal-through jack at the patch panel. The carrier line side of the AN/TCC-7 and AN/TCC-50 is extended to spiral-four receptacle AN/TCC-7 No. 1 and AN/TCC-7 NO. 2, respectively, in the signal and power entrance box on a four-wire basis. Contacts 13 through 24 of SIGNAL 1 and SIGNAL 2 are wired similarly to contacts 1 through 12 except that TA-182/U's are not supplied. These contacts (13 through 24) are provided for increasing the circuit capabilities of system 1 and system 2 to 24 channels.

- (2) *Four-wire operation.* In four-wire operation, the two directions of transmission from and to the loop are on separate pairs of wire. The send circuits are the same as in two-wire operation ((1) above). The 12 receive circuits are connected to the loops of system 1 and system 2 through contacts 1 through 12 of 26-pair receptacle SIGNAL 3 and SIGNAL 4, respectively, or the corresponding binding post pairs. The loops of each system are connected to the LOOP sides of the 12 TA-182/U's; the LINE



TM5820-204-15-24

Figure 5-1. Radio Terminal Set AN/MRC-69(V), typical equipment arrangement, block diagram.

side of each TA-182/U is connected directly to the appropriate AN/TCC-7 or AN/TCC-50 channel. The carrier line side of each system is extended to the spiral-four receptacles in the signal and power entrance box ((1) above). Contacts 13 through 24 of SIGNAL 3 and SIGNAL 4 are wired similarly to contacts 1 through 12 and are provided for the purpose of expanded channel capability.

b. *Radio Facilities.* The radio facilities of the AN/MRC-69(V) provide a frequency-modulated broadband radio circuit to a distant terminal having similar radio facilities. The carrier line side of the AN/TCC-7 (system 1)

or the AN/TCC-50 (system 2) may be connected to the radio equipment with spiral-four patching cable CX-4719/U (fig. 1-2) connected between the appropriate AN/TCC-7 and AN/TRC-24 receptacles in the signal and power entrance box.

c. *Speech-Plus-Duplex Circuits.* (fig. 6-4). Contacts 1 through 24 of SIGNAL 5 and 1 through 12 of SIGNAL 6 in the signal and power entrance box are wired through the corresponding parallel-connected binding posts in the signal binding posts box and the corresponding cutoff jacks in the patch panel to F-98/U No. 1 through No. 8 and F-98/U No. 9 through No. 12, respectively. Three successive wire pairs are used for each F-98/

U LINE, TP, and TG circuit connection. Pairs 25 and 26 of SIGNAL 5 and 13 through 26 of SIGNAL 6 are spares.

*d. Special Circuits (fig. 6-3).*

- (1) *Telephone circuit.* The intra-area telephone circuit is connected to the AN/MRC-69(V) at contacts 25 of the SIGNAL 1 or SIGNAL 2 receptacle in the signal and power entrance box. The telephone line is terminated in the SIG. 1 PAIR 25 or SIG. 2 PAIR 25 jack on the jack and binding post panel (B, fig. 6-1), and is connected to the TA-312/PT through a telephone cord (CX-4695/U).
- (2) *Intercom circuit.* The intra-area intercom circuit is connected to the AN/MRC-69(V) at contacts 26 of the SIGNAL 1 or SIGNAL 2 receptacle in the signal and power entrance box and parallel-connected binding post pair SIGNAL 1 PAIR 26 *only* in the signal binding posts box. The intercom line is terminated in the SIG. 1 PAIR 26 or SIG. 2 PAIR 26 jack on the jack and binding post panel, and is connected to the LS-147C/FI through a telephone cord (CX-4695/U).
- (3) *Binding post circuits.* Two additional pairs of binding posts, A and B, are located in the signal binding posts box and are terminated at corresponding binding posts on the jack and binding post panel. These two circuits may be used in lieu of the connection facilities described in (1) and (2) above.
- (4) *Order-wire extension.* Two pairs of binding posts, SYS 1 and SYS 2, are located in the signal binding posts box and are provided to extend their respective carrier terminal order-wire circuits. These binding posts are terminated in the ORDER-WIRE PANEL of the AN/TCC-7 and AN/TCC-50, respectively.

- (5) *Special service circuits.* SPECIAL SERVICE binding posts, three IN and three OUT, are provided for each carrier system. These binding posts terminate in the SUBGROUP PANEL or the GROUP PANEL of the AN/TCC-7 (system 1) and the AN/TCC-50 (system 2) and are for broadband channels that exceed 4 kc (TM 11-2139-10).

### 5-3. Ac Power Circuits

(fig. 6-5)

*a. Power Distribution.* Power for the AN/MRC-69(V) is applied at the POWER IN 115V receptacles in the signal and power entrance box and distributed through the MAIN circuit breaker, OVERLOAD circuit breaker, and individual circuit breakers to the various outlets in the S-178(\*)/MRC-69(V). The POWER OUT 115V receptacle provides for power connection to another area assemblage. Neon indicators for each individual circuit breaker light when the associated circuit breaker is at ON.

*b. Meters.* Voltmeter M1, connected across the ac input, monitors the input voltage to the AN/MRC-69(V). Ammeter M2, connected to the ac input through a current transformer, monitors the total current consumed by the AN/MRC-69(V).

*c. Lighting Circuits.* Power for interior lighting is distributed through the LIGHTS and INTERCOM circuit breaker and controlled by FLUORESCENTS switch S3 and door microswitch S1. When the shelter facility door is opened while NORMAL-BLACKOUT switch S2 is at BLACKOUT, all lights (except the neon blackout light) are extinguished. When the NORMAL-BLACKOUT switch is at NORMAL, door microswitch S1 is disabled. NEON switch S4 controls the neon light that provides interior lighting during blackout operation.



## CHAPTER 6

## SHIPMENT AND LIMITED STORAGE

## Section I. SHIPMENT AND LIMITED STORAGE

**6-1. Disassembly of Equipment**

Perform the following procedures when Radio Terminal Set AN/MRC-69(V) is moved to a different location or placed in storage.

a. Turn off all equipment power switches and circuit breakers except the switches that control the fluorescent lights and the LIGHTS & INTERCOM and MAIN circuit breakers.

b. Secure all components in their cases, racks, mountings, or holders.

c. Remove and store all patch cords. Place all miscellaneous items in storage drawers and cabinets and secure the items in the drawers and cabinets for transit.

d. Remove the batteries from the telephone sets and hand lantern for prolonged storage or long-distance shipment.

e. Disconnect the field wires from the binding posts in the signal binding posts box (fig. 1-7).

f. Disconnect the 26-pair cables, spiral-four cable, and antenna cables in the signal and power entrance box. Replace the covers on all connectors and receptacles.

*Note:* The 26-pair cables are stored in the assembly from which they were originally taken.

**Warning:** During removal or disassembly of the antenna system, conform to all safety requirements of TB SIG 291. Injury or DEATH could result from failure to comply with safe practices.

g. Disassemble the antenna system (TM 11-5820-287-20) and store the components in the shelter facility (para 2-9). Wind the radio-frequency cable assemblies on their reels and secure the reels in the shelter facility.

h. If power was obtained from a generator set, proceed as follows:

- (1) Stop the generator set.
- (2) Disconnect the power cable from the power cable stub. Replace both connector covers. Replace the junction

box in the door mounting bracket.

- (3) Disconnect the power cable stub from the generator set.

i. If power was obtained from a commercial power source, proceed as follows:

- (1) Turn off or disconnect the power.
- (2) Disconnect the power cable from the power cable stub. Replace both connector covers. Replace the junction box in the door mounting bracket.
- (3) Disconnect the power cable stub from the power source.

j. Disconnect the power cable from the POWER IN 115V receptacle in the signal and power entrance box and replace the covers on the connector and the receptacle.

k. Disconnect the ground strap from the GRD terminal in the signal and power entrance box. Close and secure the entrance box cover.

l. Disconnect the ground strap from the generator set (if used) and from the ground rods. Store the ground straps in the storage cabinet.

m. Close and secure the covers on the blower vents and door air filter.

n. Remove the ground rods and secure them in the AN/MRC-69(V).

o. Use Reel Unit RL-31 and wind the power cable and the signal cable on their cable reels. Secure the reels to the floor of the AN/MRC-69(V).

p. Recheck the area for loose items. If a generator set was used to supply power, prepare it for shipment or limited storage as described in the appropriate technical manual.

q. Clean the AN/MRC-69(V) thoroughly. Make sure that the drain plug is tightly closed.

r. Close and lock the door.

s. If the AN/MRC-69(V) is to be packed into a crate, attach the sling assembly to the tiedown eyes.

## 6-2. Repackaging for Shipment or Limited Storage

The exact procedure for repackaging and repackaging depends on the materials available and the conditions under which the AN/MRC-69(V) is to be shipped or stored. Adapt the procedures outlined below whenever the circumstances permit. The information concerning the original packaging and packing (para 2-2) will also be helpful.

*a. Materials Required.* The following materials are required for repackaging and repackaging the AN/MRC-69(V). For stock numbers of materials, refer to SB 38-100.

Material	Quantity
Crate, MIL-C-3774, Type II, 150" x 91" x 84" (floorboards to cover entire length of base spaced approximately 1 inch apart)	1
Side blocking, 72" x 6" x 2" nominal lumber	4
Side blocking, 72" x 4" x 2" nominal lumber	2
End blocking, 30" x 6" x 2" nominal lumber	4
Lag bolts, 6" long x 3/8" dia (to secure end blocking)	16
Eyebolts, 6" long x 1/2" dia shaft (including large flat washers and nuts)	4
Nails, cement-coated standards (to secure side blocking)	1-1/2 pounds
Strapping, steel QQ-S-781, Type I, Class B, Grade 2, 1-1/4" wide x 0.035" thick	106 feet

*b. Attaching AN/MRC-69(V) to Crate Base.*

(1) Center the AN/MRC-69(V) on a MIL-C-3774 crate base using one of the following methods:

- Overhead lifting.
- Forklifting from each end. Remove the headers from the crate base to facilitate placement.
- Dragging onto the crate base by use of an inclined ramp of lumber or logs. Be extremely careful when dragging the AN/MRC-69(V); the skids have limited durability.

(2) Anchor the AN/MRC-69(V) to the eyebolts with the sling assembly or tiedown rods.

**Caution:** Do not use steel strapping for tiedowns. The curvature of the tiedown eyes will cause the steel strapping to break.

(3) Block the side and ends of the AN/MRC-69(V) with lumber.

### *c. Packing.*

- Place the end and side panels into position on the crate base.
- Fasten the panels to the base with lag bolts.
- Place the top panel into position on the crate.
- Fasten the top panel with lag bolts.
- Secure the crate with steel strapping, placed parallel and next to each of the three skids.

*d. Marking Requirements.* Mark the crate as prescribed in MIL-STD-29.

■ Section II deleted.

## APPENDIX I

### REFERENCES

The following is a list of references available to the operator and repairman of Radio Terminal Set AN/MRC-69(V) through publications supply channels.

DA Pam 310-1	Consolidated Index of Army Publications and Blank Forms.
SB 11-573	Painting and Preservation of Supplies Available for Field use for Electronics Command Equipment.
SB 38-100	Preservation, Packaging and Packing Materials, Supplies, and Equipment Used by the Army.
TB SIG 291	Safety Measures to be Observed When Installing and Using Whip Antennas, Field Type Masts, Towers and Antennas, and Metal Poles that are used with Communication, Radar, and Direction Finder Equipment.
TB 43-0125	Installation of Communications-Electronic Equipment: Hookup of Electrical Cables to Mobile Generator Sets on Fielded Equipment to Meet Electrical Safety Standards.
TM 11-362	Reel Units RL-31, RL-31B, RL-31C, RL-31D, and RL-31E (Including Organizational Repair Parts and Special Tools Lists).
TM 11-2139-10	Operator's Manual: Terminals, Telephone AN/TCC-7 and AN/TCC-50.
TM 11-2139-20	Organizational Maintenance Manual: Terminals, Telephone AN/TCC-7 and AN/TCC-50.
TM 11-2139-35	DS, GS and Depot Maintenance Manual (Including Repair Parts and Special Tool Lists): Terminals, Telephone AN/TCC-7 and AN/TCC-50.
TM 11-2150	Telephone Carrier Systems using Terminals, Telephone AN/TCC-7 and AN/TCC-50; Repeater, Telephone AN/TCC-8 (AN/TCC-21); Repeater, Telephone AN/TCC-11, and Telephone Test Set TS-712/TCC-11.
TM 11-5805-201-12	Operator and Organizational Maintenance Manual: Telephone Set TA-312/PT (NSN 5805-00-543-0012).
TM 11-5805-201-20P	Organizational Maintenance Repair Parts and Special Tools Lists for Telephone Set TA-312/PT (NSN 5805-00-543-0012).
TM 11-5805-201-34P	Direct Support and General Support Maintenance Repair Parts and Special Tools Lists (Including Depot Maintenance Repair Parts and Special Tools) for Telephone Set TA-312/PT (NSN 5805-00-543-0012).
TM 11-5805-204-15	Operator's, Organizational, and Depot Maintenance Manual (Including Repair Parts and Special Tools Lists): Communication Patching Panel SB-611/MRC.
TM 11-5805-224-20P	Organizational Maintenance Repair Parts and Special Tools Lists: Modem, Telephone TA-219/U (NSN 5805-00-503-1062).
TM 11-5805-224-34P	Direct Support and General Support Maintenance Repair Parts and Special Tools Lists (Including Depot Maintenance Repair Parts and Special Tools) for Modem, Telephone TA-219/U (NSN 5805-00-503-1062).
TM 11-5805-245-20P	Organizational Maintenance Repair Parts and Special Tools Lists: Power Supply PP-827/U (NSN 5805-00-500-4436).
TM 11-5805-245-34P	Direct Support and General Support Maintenance Repair Parts and Special Tools Lists: Power Supply PP-827/U (NSN 5805-00-500-4436).
TM 11-5805-247-12	Organizational Maintenance Manual: Converter, Telegraph-Telephone Signal TA-182/U.

TM 11-5805-247-35	DS, GS, and Depot Maintenance Manual (Including Repair Parts and Special Tools Lists): Converter, Telegraph-Telephone Signal TA-182/U.
TM 11-5805-248-20P	Organizational Maintenance Repair Parts and Special Tools Lists: Power Supplies PP-826/U and PP-826A/U.
TM 11-5805-248-35P	DS, GS, and Depot Maintenance Repair Parts and Special Tool Lists for Power Supplies PP-826/U and PP-826A/U (NSN 5805-00-500-4370).
TM 11-5805-254-15	Operator's, Organizational, Field and Depot Maintenance Manual: Terminal, Telegraph-Telephone AN/TCC-14.
TM 11-5805-254-15P	Operator's, Organizational, Field and Depot Maintenance Repair Parts and Special Tools Lists and Maintenance Allocation Chart for Terminal, Telegraph-Telephone AN/TCC-14 (NSN 5805-00-238-9873).
TM 11-5805-317-20P	Organizational Maintenance Repair Parts and Special Tools Lists for Telephone, Terminal AN/TCC-7, and Telephone Terminal AN/TCC-50.
TM 11-5820-263-12P	Operator's and Organizational Maintenance Repair Parts and Special Tools Lists and Maintenance Allocation Chart for Radio Set Group OA-1387/GRC (NSN 5820-00-543-0116).
TM 11-5820-263-35P	DS, GS, and Depot Maintenance Repair Parts and Special Tool Lists: Radio Set Groups OA-1387/GRC and OA-1387A/GRC.
TM 11-5820-278-12P	Operator's and Organizational Maintenance Repair Parts and Special Tools Lists and Maintenance Allocation Chart: Amplifier Group OA-1390/GRC.
TM 11-5820-287-12	Operator's Manual: Radio Sets AN/TRC-24, AN/GRC-75, AN/GRC-78, AN/GRC-81, and AN/GRC-81A; Radio Terminal Sets AN/TRC-35, AN/GRC-76, AN/GRC-79, and AN/GRC-82; Radio Relay Set AN/GRC-36; Radio Repeater Sets AN/GRC-77, AN/GRC-80, and AN/GRC-83; and Radio Set Groups AN/TRA-25, AN/TRA-25A, and OA-3668A/TRC-24.
TM 11-5820-287-20P	Organizational Maintenance Repair Parts and Special Tools List: Radio Sets AN/TRC-24, AN/GRC-75, AN/GRC-78, AN/GRC-81, and AN/GRC-81A; Radio Terminal Sets AN/TRC-35; AN/GRC-76, AN/GRC-79, and AN/GRC-82; Radio Relay Set AN/TRC-36; Radio Repeater Sets AN/GRC-77, AN/GRC-80, and AN/GRC-83; and Radio Set Group AN/TRA-25.
TM 11-5820-287-35P	Field and Depot Maintenance Repair Parts and Special Tool Lists: Radio Set AN/TRC-24, Radio Terminal Set AN/TRC-35, Radio Relay Set AN/TRC-36, Radio Set AN/GRC-75, Radio Terminal Set AN/GRC-76, Radio Repeater Set AN/GRC-77, Radio Set AN/GRC-78, Radio Terminal Set AN/GRC-79, Radio Repeater Set AN/GRC-80, Radio Set AN/GRC-81, Radio Terminal Set AN/GRC-82, and Radio Repeater Set AN/GRC-83.
TM 11-5820-293-12P	Operator's and Organizational Maintenance Repair Parts and Special Tools List and Maintenance Allocation Chart for Antenna-Filter Group, OA-1397/GRC (NSN 5820-00-543-0107).
TM 11-5820-301-12P	Operator's and Organizational Maintenance Repair Parts and Special Tools Lists and Maintenance Allocation Chart for Generator Set Group OA-1675/GRC (NSN 5820-00-543-1282).
TM 11-5820-301-35P	Field and Depot Maintenance Repair Parts and Special Tools Lists for Generator Set Group OA-1675/GRC.
TM 11-5820-302-12P	Operator's and Organizational Maintenance Repair Parts and Special Tools Lists and Maintenance Allocation Chart: Antenna Group OA-1389/GRC.



TM 11-5820-302-35P	Field and Depot Maintenance Repair Parts and Special Tools Lists for Antenna Group OA-1389/GRC (NSN 5820-00-543-0115).
TM 11-5820-311-12P	Operator's and Organizational Maintenance Repair Parts and Special Tools Lists and Maintenance Allocation Chart for Antenna Filter Group OA-1391/GRC.
TM 11-5820-461-12	Operator and Organizational Maintenance Manual: Radio Sets AN/GRC-50(V)1 (NSN 5820-00-892-3851) AN/GRC-50(V)2 (5820-00-892-3852) AN/GRC-50(V)3 (5820-00-892-3853) AN/GRC-50(V)4 (5820-00-892-3854) AN/GRC-50(V)5 (5820-00-892-3855) AN/GRC-50A(V)1 (5820-00-933-6193) AN/GRC-50A(V)2 (5820-00-933-6192) AN/GRC-50A(V)3 (5820-00-933-6191) AN/GRC-50A(V)4 (5820-00-933-6190) AN/GRC-50A(V)5 (5820-00-933-6189) AN/GRC-50A(V)6 (5820-00-936-5480) AN/GRC-50A(V)7 (5820-00-936-5481) AN/GRC-50A(V)8 (5820-00-935-0089) AN/GRC-50A(V)9 (5820-00-878-8635) AN/GRC-50A(V)10 (5820-00-878-8634) AN/GRC-50A(V)11 (5820-00-136-4966).
TM 11-5820-506-12P	Operator and Organizational Maintenance Repair Parts and Special Tool Lists: Radio Set Group OA-3668A/TRC-24.
TM 11-5820-517-14P	Operator's, Organizational DS and GS Maintenance Repair Parts and Special Tools Lists (Including Depot Maintenance Repair Parts and Special Tools) for Antenna, AT-903/G (NSN 5820-00-856-9925).
TM 11-5830-221-12	Operator's and Organizational Maintenance Manual: Intercommunication Stations LS-147A/FI, LS-147B/FI, LS-147C/FI, and LS-147D/FI.
TM 11-5830-221-24P	Organizational, Direct Support, and General Support Maintenance Repair Parts and Special Tool Lists for Intercommunications Station LS-147C/FI (NSN 5830-00-752-5357).
TM 11-5830-221-35	Field and Depot Maintenance Manual: Intercommunication Stations LS-147A/FI, LS-147B/FI, LS-147C/FI, and LS-147D/FI.
TM 11-5935-203-15P	Organizational, DS, GS, and Depot Maintenance Repair Parts and Special Tools Lists: Connectors, Receptacle, Electrical U-186A/G and U-186B/G.
TM 11-5935-205-14P	Operator's, Organizational, DS and GS Maintenance Repair Parts and Special Tools Lists (Including Depot Maintenance Repair Parts and Special Tools) for Connectors, Receptacle, Electrical U-187/G and U-187A/G (NSN 5935-00-682-0381).
TM 11-5935-212-13P	Operator's, Organizational, and Direct Support Maintenance Repair Parts and Special Tools Lists for Connectors, Plug, Electrical U-185A/G (NSN 5935-00-577-8846) and U-185B/G (5935-00-045-9830).
TM 11-5965-224-14P	Operator's, Organizational, DS and GS Maintenance Repair Parts and Special Tools Lists (Including Depot Maintenance Repair Parts and Special Tools) for Handsets H-60/PT and H-165/U.
TM 11-5965-271-50	Depot Maintenance Manual: Handsets TS-9(*), TS-10(*), TS-11(*), TS-12-F, TS-13(*), TS-14(*), TS-15(*), H-22-B/U, H-23(*)/U, and H-60/PT.
TM 11-6110-201-12P	Operator's and Organizational Maintenance Repair Parts and Special Tools Lists for Distribution Boxes J-1077/U and J-1077A/U (NSN 6110-00-985-7574).
TM 38-750	Army Equipment Record Procedures.
TM 740-90-1	Administrative Storage of Equipment.
TM 750-244-2	Procedures for Destruction of Electronics Materiel to Prevent Enemy Use.



## APPENDIX II

### BASIC ISSUE ITEMS

#### Section I. INTRODUCTION

##### A2-1 Scope

This appendix lists items comprising an operable equipment and those required for installation, operation, or operator's maintenance for Radio Terminal Set AN/MRC-69(V).

##### A2-2. Explanation of Columns

The following is a list of explanations of columns in section II.

###### *a. Source, Maintenance, and Recoverability Codes (SMR) Column.*

(1) *Source code (S)*. The selection status and source for the listed item is the first code indicated in this column. The source code used and its explanation is:

Code	Explanation
P	Applies to repair parts that are stocked in or supplied from GSA/DSA, or Army Supply system, and authorized for use at indicated maintenance categories.

(2) *Maintenance code (M)*. The lowest category of maintenance authorized to install the item is indicated by the second code in the column. The maintenance category code and its explanation is:

Code	Explanation
O	Organizational Maintenance

(3) *Recoverability code (R)*. The recoverability code is the third code in the column. It indicates whether unserviceable items should be returned for recovery or salvage. Recoverability code and its explanation is as follows:

###### Note

When no code is indicated in the recoverability column, the part will be considered expendable.

Code	Explanation
R	Applies to repair parts and assemblies that are economically repairable at DSU and GSU activities and are normally furnished by supply on an exchange basis.

*b. Federal Stock Number Column.* This column indicates the Federal stock number for the item.

*c. Description Column.* This column indicates the Federal item name and any additional description of the item which may be required. A part number or other reference number is followed by the applicable five-digit Federal Supply Code for Manufacturers. When required to indicate that the part is used on the models, or serially numbered groups so identified, the numbers 1, 2, 3, 4, etc. are placed under the heading *Usable on Code*. An explanation of the codes precedes the first item in section II of the basic issue items list.

*d. Unit of Issue Column.* The unit used as a basis of issue (e.g., ea, pr, ft, yd, etc.) is given in this column.

*e. Quantity Incorporated in Unit Pack Column.* Not used.

*f. Quantity Incorporated in Unit Column.* The total quantity of the item used in the equipment is given in this column.

*g. Quantity Furnished with Equipment Column.* This column lists the quantity of the item supplied for initial operation of the equipment and/or the quantities authorized to be kept on hand by the operator for maintenance of the equipment.

*h. Quantity Authorized Column.* Not used.

*i. Illustrations Column.*

(1) *Figure number (a)*. The number of the illustration on which the item is shown is indicated in this column

(2) *Item No. or reference designation (b)*. The reference designation and/or item number callout used to reference the item on the illustration appears in this column.

**A2-3. Batteries**

Dry batteries shown are used with the equipment but are not considered part of the equip-

ment. They will not be preshipped automatically but are to be requisitioned in quantities necessary for the particular organization in accordance with SB 11-6.

## SECTION II. BASIC ISSUE ITEMS

(1) SNR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION  Reference Number & Mfr Code  USABLE ON CODE	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) QTY FURN WITH EQUIP	(8) QTY AUTH	(9) ILLUSTRATIONS	
								(a) FIG. NO.	(c) ITEM NO. OR REFERENCE DESIGNATION
P-O-R	5820-542-7298	RADIO TERMINAL SET AM/MRC-69(V): (This item is nonexpendable)  TECHNICAL MANUAL TM 11-5820-204-15:  Requisition through pinpoint account number if assigned, otherwise through nearest Adjutant General facilities office.  NOTE: A quantity of one technical manual is packed with each equipment. Where a valid need exists, additional copies may be requisitioned and kept on hand.  TECHNICAL BULLETIN TB SIG 354:  Requisition through pinpoint account number if assigned; otherwise through nearest Adjutant General facility.	ea		1	1			
P-O-R	5805-263-3326	CONVERTER, TELEGRAPH-TELEPHONE SIGNAL: TA-182/U; (less case)	ea		24	24		1-6 6-1	
P-O-R	5805-263-3326	CONVERTER, TELEGRAPH-TELEPHONE SIGNAL TA-182/U	ea		2	2		6-1	
P-O-R	5915-356-2134	FILTER ASSEMBLY, ELECTRICAL F-98/U	ea		12	12		6-1	
P-O	6115-823-2425	GENERATOR SET, GASOLINE ENGINE, TRAILER MOUNTED PU-474/M: (NOTE: Used with but not part of AM/MRC-69(V))	ea		1	1		1-1	
P-O-R	3895-252-6896	HEEL UNIT RL-31	ea		1	1			
P-O-R	6150-542-0875	SHELTER, ELECTRICAL EQUIPMENT S-178/MRC-69(V); S-178A,B,C,D,E,F/MRC-69(V); (S-141( )/G Shelter Modified)	ea		1	1			
P-O-R	5805-543-0012	TELEPHONE SET TA-312/PT (less case)	ea		1	1		6-1	
P-O-R	5805-752-5588	TERMINAL, TELEPHONE, AM/TCC-50 (less case)	ea		1	1		6-1 1-9	
P-O-R	5805-503-1228	TERMINAL, TELEPHONE AM/TCC-7 (less case)	ea		1	1		6-1 1-8	
		RADIO EQUIPMENT							
P-O-R	5820-566-7945	ANTENNA ACCESSORIES GROUP OA-1398/GRC: (less hammer HM-3, CG-1030/US cables)	ea		1	1			
P-O-R	5820-566-7945	ANTENNA ACCESSORIES GROUP OA-1398/GRC	ea		1	1			
P-O	5975-393-1269	CLAMP ASSEMBLY: SC-C-66471; 80063	ea		4	4			
P-O-R	6150-549-4857	CABLE ASSEMBLY, POWER ELECTRICAL CX-2254/U (10 ft)	ea		2	2			
P-O-R	5820-543-1283	POWER ACCESSORIES GROUP OA-1676/GRC: (less case CY-1343/TNC, Interconnecting Box J-532/U)	ea		1	1			
P-O-R	5820-543-0116	RADIO SET GROUP OA-1387/GRC: (less Auto-Transformer TF-167/TNC; c/o 1 ea Transmitter T-302/TNC (less case CY-1341/TNC); 1 ea Receiver R-417/TNC (less case CY-1339/TNC); 1 ea Power Supply PP-685/TNC (less case CY-1340/TNC); 1 ea Accessory Kit MK-133/TNC (less Cable Assy 1512/U (12 ft); less Cable Assy Power CX-2257/U (10 ft))	ea		2	2			
		AND "A" BAND							
P-O	5820-543-0114	AMPLIFIER GROUP OA-1390/GRC: (less CY-1338/TNC)	ea		2	2			
P-O	5820-543-0113	ANTENNA FILTER GROUP OA-1391/GRC: (less CY-1769/GRC and CY-1344/TNC)	ea		2	2			
P-O	5995-985-7790	CABLE ASSEMBLY, RADIOFREQUENCY CG-1030A/U	ea		4	4			
		OR "B" BAND							
P-O-R	5820-543-0112	AMPLIFIER GROUP OA-1392/GRC: (less case CY-1338/TNC)	ea		2	2			
P-O-R	5820-543-0111	ANTENNA FILTER GROUP OA-1393/GRC: (less cases CY-1371/TNC and CY-1344/TNC)	ea		2	2			
P-O-R	5820-543-0115	ANTENNA GROUP OA-1389/GRC: (less case CY-1385/TNC and CY-1387/TNC)	ea		1	1			
P-O-R	5820-543-0115	ANTENNA GROUP OA-1389/GRC: (less case CY-1385/TNC and CY-1387/TNC; less socket wrench handle 1/2 in socket wrench, 9/16 in socket wrench, 7/8 in open end wrench, and 1/2 in 9/16 in box wrench)	ea		1	1			

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# SECTION 11. BASIC ISSUE ITEMS (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION  Reference Number & Mfr Code	(4) UNIT OF ISSUE  USABLE ON CODE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) QTY FURN WITH EQUIP	(8) QTY AUTH	(9) ILLUSTRATIONS	
								(a) FIG. NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
		CABLE ASSEMBLY, RADIO FREQUENCY, 10-13.5 MC  "E" BAND	ea		4	4			
P-1-B	05-0544-0114	AMPLIFIER GROUP OA-1385/TRC (less cases CY-1385/TRC)	ea		2	2		6-1	
P-1-B	05-0544-0115	ANTENNA GROUP OA-1385/TRC (less cases CY-1385/TRC and CY-1385/TRC)	ea		2	2		6-1	
P-1-B	05-0544-0116	ANTENNA GROUP OA-1385/TRC (less cases CY-1385/TRC and CY-1385/TRC)	ea		1	1		6-1	
P-1-B	05-0544-0117	ANTENNA GROUP OA-1385/TRC (less cases CY-1385/TRC and CY-1385/TRC, less socket wrench handle, 1/2 in socket wrench, 9/16 in socket wrench, 7/8 in open end wrench, and 1/2 in - 9/16 in box wrench)	ea		1	1			
P-1-B	05-0544-0118	CABLE ASSEMBLY, RADIO FREQUENCY, 10-13.5 MC  "E" BAND	ea		4	4		6-1	
P-1-B	05-0544-0119	AMPLIFIER GROUP OA-1385/TRC (less cases CY-1385/TRC)	ea		2	2			
P-1-B	05-0544-0120	ANTENNA GROUP OA-1385/TRC (less cases CY-1385/TRC and CY-1385/TRC)	ea		2	2			
P-1-B	05-0544-0121	ANTENNA GROUP OA-1385/TRC (less cases CY-1385/TRC and CY-1385/TRC)	ea		1	1			
P-1-B	05-0544-0122	ANTENNA GROUP OA-1385/TRC (less cases CY-1385/TRC and CY-1385/TRC, less socket wrench handle, 1/2 in socket wrench, 9/16 in socket wrench, 7/8 in open end wrench, and 1/2 in - 9/16 in box wrench)	ea		1	1			
P-1-B	05-0544-0123	CABLE ASSEMBLY, RADIO FREQUENCY, 10-13.5 MC  "E" BAND	ea		4	4			
P-1-B	05-0544-0124	AMPLIFIER GROUP OA-1385/TRC	ea		2	2			
P-1-B	05-0544-0125	ANTENNA GROUP OA-1385/TRC (less cases CY-1385/TRC and CY-1385/TRC, and AT-414/TRC)	ea		1	1			
P-1-B	05-0544-0126	ANTENNA GROUP OA-1385/TRC (less cases CY-1385/TRC, CY-1385/TRC, and AT-414/TRC, less socket wrench handle, 1/2 in socket wrench, 9/16 in socket wrench, 7/8 in open end wrench, and 1/2 in - 9/16 in box wrench)	ea		1	1			
P-1-B	05-0544-0127	RADIO SET GROUP AN-TRA-25A (less cases CY-2854/TRA-25 and CY-2854/TRA-25)	ea		2	2			
P-1-B	05-0544-0128	CABLE ASSEMBLY, RADIO FREQUENCY, 10-13.5 MC  "E" BAND	ea		4	4			
P-1-B	05-0544-0129	AMPLIFIER GROUP OA-1385/TRC	ea		2	2			
P-1-B	05-0544-0130	ANTENNA GROUP OA-1385/TRC (less cases CY-1385/TRC and CY-1385/TRC, AT-414/TRC and AB-325/TRC)	ea		1	1			
P-1-B	05-0544-0131	ANTENNA GROUP OA-1385/TRC (less cases CY-1385/TRC and CY-1385/TRC, AT-414/TRC, and AB-325/TRC; less socket wrench handle, 1/2 in socket wrench, 9/16 in socket wrench, 7/8 in open end wrench, and 1/2 in - 9/16 in box wrench)	ea		1	1			
P-1-B	05-0544-0132	RADIO SET GROUP AN-TRA-25A (less cases CY-2854/TRA and CY-2854/TRA)	ea		2	2			
P-1-B	05-0544-0133	CABLE ASSEMBLY, RADIO FREQUENCY, 10-13.5 MC  "E" BAND	ea		4	4			
P-1-B	05-0544-0134	AMPLIFIER GROUP OA-1385/TRC (less cases CY-1385/TRC and CY-1385/TRC, AT-414/TRC, and AB-325/TRC)	ea		1	1			
P-1-B	05-0544-0135	ANTENNA GROUP OA-1385/TRC (less cases CY-1385/TRC and CY-1385/TRC, AT-414/TRC and AB-325/TRC; less socket wrench handle, 1/2 in socket wrench, 9/16 in socket wrench, 7/8 in open end wrench, and 1/2 in - 9/16 in box wrench)	ea		1	1			
P-1-B	05-0544-0136	RADIO SET GROUP AN-TRA-25A (less cases CY-2854/TRA and CY-2854/TRA)	ea		2	2			
P-1-B	05-0544-0137	CABLE ASSEMBLY, RADIO FREQUENCY, 10-13.5 MC  "E" BAND	ea		4	4			
P-1-B	05-0544-0138	AMPLIFIER GROUP OA-1385/TRC (less cases CY-1385/TRC and CY-1385/TRC, AT-414/TRC, and AB-325/TRC)	ea		1	1			
P-1-B	05-0544-0139	ANTENNA GROUP OA-1385/TRC (less cases CY-1385/TRC and CY-1385/TRC, AT-414/TRC and AB-325/TRC; less socket wrench handle, 1/2 in socket wrench, 9/16 in socket wrench, 7/8 in open end wrench, and 1/2 in - 9/16 in box wrench)	ea		1	1			
P-1-B	05-0544-0140	RADIO SET GROUP AN-TRA-25A (less cases CY-2854/TRA and CY-2854/TRA)	ea		2	2			

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## SECTION II. BASIC ISSUE ITEMS (CONTINUED)

(1) SIR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION  Reference Number & Mfr Code	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) QTY FURN WITH EQUIP	(8) QTY AUTH	(9) ILLUSTRATIONS	
								(a) FIG. NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
		<b>SHIELTER, ELECTRICAL EQUIPMENT</b> S-178/MNC-69(V), S-178A,B,C,D,E,F/MNC-69(V)  NOTE: Model column 1 refers to S-178/MNC-69(V), column 2 refers to S-178A/MNC-69(V), column 3 refers to S-178B/MNC-69(V), column 4 refers to S-178C/MNC-69(V), column 5 refers to S-178D/MNC-69(V), column 6 refers to S-178E/MNC-69(V), column 7 refers to S-178F/MNC-69(V)							
P-0	5935-577-8804	ADAPTER, CONNECTOR UC-1312/U	1,2,3,4,5,6	ea	2	2		6-1	CP1
P-0	4210-727-8111	AXE, SINGLE BIT: OOG-A-926B type 1 class 1, design "C"; 81348	1,2,3,4,5,6,7	ea	1	1		6-1	
P-0	7520-753-4807	BASKET, WASTE PAPER: NW-B-181 style A; 81348	1,2,3,4,5,6,7	ea	1	1		6-1	
P-0	6135-120-1020	BATTERY BA-30	1,2,3,4,5,6,7	ea					
P-0	7510-753-4542	BINDER, LOOSELEAF: B-1/2 in X 11 in; SM-B-335395; 80063	1,2,3,4,5,6,7	ea	2	2			
P-0	7520-178-8315	BURSH, DUSTING: SM-B-364944; 80063	1,2,3,4,5,6,7	ea	1	1		6-1	
P-0-R	5995-823-2715	CABLE ASSEMBLY AND REEL: c/o CX-4566A/G (250 ft) on RC-435/U Reel	1,2,3,4,5,6,7	ea	1	1		1-3	W5
P-0-R	5995-889-0905	CABLE ASSEMBLY, ELECTRICAL CX-4719/U (3 ft): SM-B-364236; 80063	1,2,3,4,5,6,7	ea	3	3		1-2	
P-0-R	5995-681-8446	CABLE ASSEMBLY, POWER ELECTRICAL CX-4772/U (6 ft 3 in): SC-DL-363754; 80063	1,2,3,4,5,6,7	ea	1	1		1-2	
P-0-R	5995-889-1228	CABLE ASSEMBLY, POWER, ELECTRICAL CX-4694A/U (100 ft): SC-DL-335418; 80063	1,2,3,4,5,6	ea	1	1		1-3	
P-0-R	5995-681-8445	CABLE ASSEMBLY, POWER, ELECTRICAL CX-4773/U (6 ft 2 in): SC-DL-363752; 80063	1,2,3,4,5,6,7	ea	1	1		1-2	
P-0-R	5995-681-8427	CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL CX-4768/U (2 ft): SM-C-363749-1; 80063	1,2,3,4,5,6,7	ea	28	28		1-2	
P-0	7105-269-8463	CHAIR, FOLDING: SM-B-335417; 80063	1,2,3,4,5,6,7	ea	1	1		6-1	
P-0-R	6645-303-4950	CLOCK, AIRCRAFT, MECHANICAL: SM-B-364789; 80063	1,2,3,4,5,6,7	ea	1	1			
P-0-R	6605-171-5121	COMPASS, MAGNETIC: Type 5600; 33363	1,2,3,4,5,6,7	ea	1	1		1-2	
P-0	5995-681-8449	CORD ASSEMBLY, ELECTRICAL CX-4695/U (3 ft 4-3/4 in): U/w LS-147C/VI; SC-DL-363182; 80063	1,2,3,4,5,6,7	ea	1	1		6-1	
P-0	5995-729-8911	CORD ASSEMBLY, ELECTRICAL CX-4695/U (4 ft 6 in): U/w TA-312/VI; SC-DL-364134; 80063	1,2,3,4,5,6,7	ea	1	1		6-1	
P-0	7210-753-3043	CUSHION, CHAIR AND STOOL: SM-B-350214; 80063	1,2,3,4,5,6,7	ea	1	1			
P-0-R	6110-985-7574	DISTRIBUTION BOX J-1077A/U	1,2,3,4,5,6,7	ea	2	2		1-10 6-1	
P-0	5960-272-9182	ELECTRON TUBE: F/LS-147C/VI; Type 6X4W; 81349	1,2,3,4,5,6,7	ea	1	1			
P-0	5960-669-6861	ELECTRON TUBE: F/LS-147C/VI; Type 6005/6AW5U; 81349	1,2,3,4,5,6,7	ea	1	1			
P-0	5960-166-7663	ELECTRON TUBE: F/TA-182/U; Type 12AU7; 81349	1,2,3,4,5,6,7	ea	78	10			
P-0	5960-827-8782	ELECTRON TUBE: F/TA-182/U; Type 12AX7; 81349	1,2,3,4,5,6,7	ea	26	6			
P-0-R	4210-027-4512	EXTINGUISHER, FIRE, CARBON DIOXIDE: Model 2-1/2 TL; 33525	1,2,3,4,5,6,7	ea	1	1		6-1	
P-0-R		EXTINGUISHER, FIRE, CARBON DIOXIDE: Model 5TL; 33525	1,2,3,4,5,6,7	ea	1	1		6-1	
P-0	5120-293-2692	EXTRACTOR ELECTRON TUBE: F/9 pin tube; SM-B-364371; 80063	1,2,3,4,5,6,7	ea	1	1			

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# SECTION II. BASIC ISSUE ITEMS (CONTINUED)

(1) SHR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION  Reference Number & Mfr Code	(4) UNIT OF ISSUE  USABLE ON CODE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) QTY FURN WITH EQUIP	(8) QTY AUTH	(9) ILLUSTRATIONS	
								(a) FIG. NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P-0	5120-468-1481	EXTRACTOR, ELECTRON TUBE: F/7 pin tube; SM-B-364370; 80063	1,2,3,4,5, 6,7	ea		1	1		
P-0	4140-889-2463	FAN, CENTRIFUGAL: Exhaust blower; SC-710-16852; 60399	1,2,3,4,5, 6,7	ea		2	2		
P-0	6545-922-1200	FIRST AID KIT, GENERAL PURPOSE: SC-C-539483; 80063	1,2,3,4,5, 6,7	ea		1	1	6-1	
P-0	5920-280-4465	FUSE, CARTRIDGE: F/LS-147C/FI and TA-182/U; Type FO2A250V1AS; 81349	1,2,3,4,5, 6,7	ea		27	20		
P-0	5120-776-9918	GRIP, CABLE WOVEN: 12 in lg; Part No. EQA6-S; 95344	1,2,3,4,5, 6,7	ea		20	20	1-2	
P-0	5120-776-9917	GRIP, CABLE WOVEN: 16 in lg; Part No. EQA6-BP; 95344	1,2,3,4,5, 6,7	ea		5	5	1-2	
P-0	5120-251-4489	HAMMER, HAND: Spec GGG-H-86a, type SA; Class II; 81349	1,2,3,4,5, 6,7	ea		1	1		
P-0	5975-682-0519	HANGER CABLE: U/to secure incoming cables to side of shelter; SM-B-363104; 80063	1,2,3,4,5, 6,7	ea		2	2	1-2	
P-0-H	4520-649-8145	HEATER SPACE, ELECTRIC MD-375/U; SM-D-335634; 80063	1	ea		1	1	4-8	
P-0-H	4520-224-7909	HEATER, SPACE, ELECTRICAL: SC-D-539485; 80063	2,3,4,5,6,7	ea		1	1		
P-0	3895-766-1473	HOLDER, CABLE REEL: Retains cable reel in transit; SM-B-363238; 80063	1,2,3,4,5, 6,7	ea		2	2	1-3	
P-0	5820-706-3036	HOOK: U/to stretch springs which retain AN/TRC-24; SM-B-364049; 80063	1,2,3,4,5, 6,7	ea		2	2	2-2	
P-0-H	5130-752-5357	INTERCOMMUNICATION STATION LS-147C/FI	1,2,3,4,5, 6,7	ea		1	1	6-1	
P-0	2540-892-6243	LADDER, VEHICLE BOARDING MX-3391/U; SC-DL-108736; 80063	1,2,3,4,5, 6,7	ea		1	1	1-1	
P-0	6240-538-8447	LAMP, FLUORESCENT: Part No. F20T12/CW; 24455	1,2,3,4,5, 6,7	ea		6	3	1-4	
P-0	6240-223-9104	LAMP, GLOW: Type NE40; 81349	1,2,3,4,5, 6,7	ea		1	1	1-4	
P-0	6240-270-4286	LAMP, GLOW: Type NE21; 81349	1,2,3,4,5, 6,7	ea		13	3	1-4	
P-0	6240-223-9100	LAMP, GLOW: Type NF-51; 81349	1,2,3,4,5, 6,7	ea		24	5	1-4	
P-0	6240-143-3060	LAMP, INCANDESCENT: F/TA-182/U; Type 6S6DC-120; 24455	1,2,3,4,5, 6,7	ea		26	6		
P-0	6240-143-3070	LAMP, INCANDESCENT: F/extension light; Part No. 50A/RS; 24455	1,2,3,4,5, 6,7	ea		1	1	1-4	
P-0	6240-155-7786	LAMP INCANDESCENT: (Packed behind reflector in lantern); Part No. PR-2; 24455	1,2,3,4,5, 6,7	ea		1	1	1-4	
P-0	6230-729-9614	LANTERN, ELECTRIC: 6V; Model No. 2106-7; 32572	1,2,3,4,5, 6,7	ea		1	1	6-1	
P-0	5410-752-2525	LEAD, ELECTRICAL: Ground conn; SM-B-364318; 80063	1,2,3,4,5, 6,7	ea		1	1	1-2	
P-0	6230-615-5384	LIGHT, EXTENSION: 25 ft; Part No. 506KS25-18-2SJ; 79409	1,2,3,4,5, 6,7	ea		1	1		
P-0	5820-831-4028	PLATE DESIGNATION: F/TA-182/U; c/o 12 plates marked 1 to 12 incl; SM-B-364658 Gr I; 80063	1,2,3,4,5, 6,7	ea		2	2		
P-0	8130-656-1090	REEL CABLE RC-435/U	1,2,3,4,5, 6,7	ea		2	1	1-3	
P-0	5975-224-5260	ROD, GROUND MX-148/G	1,2,3,4,5, 6,7	ea		1	1	6-1	
P-0	6130-076-3545	SEMICONDUCTOR DEVICE, DIODE: F/TA-182/U; SC-C-141342; 80063	1,2,3,4,5, 6,7	ea		52	6		
P-0	6130-076-3546	SEMICONDUCTOR DEVICE, DIODE: F/TA-182/U; SC-C-141343; 80063	1,2,3,4,5, 6,7	ea		52	6		



## SECTION II. BASIC ISSUE ITEMS (CONTINUED)

(1) SNR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	USABLE ON CODE	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) QTY FURN WITH EQUIP	(8) QTY AUTH	(9) ILLUSTRATIONS	
									(a) FIG. NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P-0	7520-162-6178	SHARPENER, PENCIL: SC-C-539503; 80063	1, 3, 4, 5, 6, 7	EA		1	1	6		
P-2	6210-666-5568	SHIELD, ELECTRIC LIGHT: P/fluorescent lamp; SM-B-335531; 80063	1, 3, 4, 5, 6, 7	EA		6	6	4	8	
P-2	650-299-2884	STARTER, FLUORESCENT LAMP: Part No. PS-1; 14455	1, 3, 4, 5, 6, 7	EA		6	6	1		
P-0-F	5210-221-1882	TAPE, MEASURING: SM-D-350561; 80063	1, 3, 4, 5, 6, 7	EA		1	1	1		
P-0		WRENCH, DRAIN PLUG: SM-B-370021; 80063	1, 3, 4, 5, 6, 7	EA		1	1	1		
	5995-889-1228	CABLE ASSEMBLY, POWER ELECTRICAL: CX-6694A/U (100 ft)	1, 3, 4, 5, 6	EA		1				
P-0-R	5995-905-0642	CABLE ASSEMBLY, POWER ELECTRICAL: CX-7454/U (100 ft)	7	EA		1	1			
P-0-R	5995-889-1332	CABLE ASSEMBLY, POWER ELECTRICAL: CX-7705/U	7	EA		1	1			
P-0-R	5995-904-6102	CABLE ASSEMBLY, POWER ELECTRICAL: CX-11-15/U	1, 3, 4, 5, 6, 7	EA		1	1			
	5935-977-8804	ADAPTER: UC-1312/U	1, 3, 4, 5, 6	EA		1				
P-0	5410-805-5533	SLING MULTIPLE LEG: SCD-364/3; 80063	1, 3, 4, 5, 6, 7	EA		1	1			
P-2		PIN STRAIGHTENER, ELECTRON TUBE: (P/7 and 9 pin miniature tubes); D-279-SM; 7260C	1, 3, 4, 5, 6, 7	EA		1	1			
		NO ACCESSORIES, TOOLS OR TEST EQUIPMENT ARE TO BE ISSUED WITH THIS EQUIPMENT								
		NO BASIC ISSUE ITEMS ARE MOUNTED IN OR ON THIS EQUIPMENT								

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## APPENDIX III

### MAINTENANCE ALLOCATION

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#### Section I. INTRODUCTION

##### A3-1. General

This appendix assigns maintenance functions to be performed on components, assemblies, and subassemblies by the lowest appropriate maintenance category.

##### A3-2. Columns

a. Columns in the maintenance allocation chart are as follows:

- (1) *Part or component.* This column shown only the nomenclature or standard item name. Additional descriptive data are included only where clarification is necessary to identify the component. Components, assemblies, and subassemblies are listed in top-down order. That is, the assemblies which are part of a component are listed immediately below that component, and subassemblies which are part of an assembly are listed immediately below that assembly. Each generation breakdown (components, assemblies or subassemblies) is listed in disassembly order or alphabetical order.
- (2) *Maintenance function.* This column indicates the various maintenance functions allocated to the categories.
  - (a) *Service.* To clean, to preserve, and to replenish lubricants.
  - (b) *Adjust.* To regulate periodically to prevent malfunction.
  - (c) *Inspect.* To verify serviceability and detect incipient electrical or mechanical failure by scrutiny.
  - (d) *Test.* To verify serviceability and to detect incipient electrical or

mechanical failure by use of special equipment such as gages, meters, etc.

- (e) *Replace.* To substitute serviceable components, assemblies, or subassemblies, for unserviceable components, assemblies, or subassemblies.
- (f) *Repair.* To restore an item to serviceable condition through correction of a specific failure or unserviceable condition. This function includes but is not limited to welding, grinding, riveting, straightening, and replacement of parts other than the trial and error replacement of running spare type items such as fuses, lamps, or electron tubes.
- (g) *Align.* To adjust two or more components of an electrical system so that their functions are properly synchronized.
- (h) *Calibrate.* To determine, check, or rectify the graduation of an instrument, weapon, or weapons system, or components of a weapons system.
- (i) *Overhaul.* To restore an item to *completely serviceable* condition as prescribed by serviceability standards developed and published by heads of technical services. This is accomplished through employment of the technique of "Inspect and Repair Only as Necessary" (IROAN). Maximum utilization of diagnostic and test equipment

is combined with minimum disassembly of the item during the overhaul process.

- (j) *Rebuild.* To restore an item to a standard as near as possible to original or new condition in appearance, performance, and life expectancy. This is accomplished through the maintenance technique of complete disassembly of the item, inspection of all parts or components, repair or replacement of worn or unserviceable elements using original manufacturing tolerances and/or specifications and subsequent reassembly of the item.
- (3) *Operator, organization, direct support, general support, and depot.* The symbol X indicates the categories responsible for performing that particular maintenance operation, but does not necessarily indicate that repair parts will be stocked at that level. Categories higher than those marked by X are authorized to perform the indicated operation.

(4) *Tools required.* This column indicates codes assigned to each individual tool equipment, test equipment, and maintenance equipment referenced. The grouping of codes in this column of the maintenance allocation chart indicates the tool, test, and maintenance equipment required to perform the maintenance function.

(5) *Remarks.* Entries in this column will be utilized when necessary to clarify any of the data cited in the preceeding column.

b. Columns in the allocation of tools for maintenance functions are as follows:

- (1) *Tools required for maintenance functions.* This column lists tools, test, and maintenance equipment required to perform the maintenance functions.
- (2) *Operator, organization, direct support, general support, and depot.* The dagger (†) indicates the categories normally allocated the facility.
- (3) *Tool code.* This column lists the tool code assigned.

# SECTION II. MAINTENANCE ALLOCATION CHART

PART OR COMPONENT	MAINTENANCE FUNCTION	ECONOMY						TOOLS REQUIRED	REMARKS
		O/C	O	DE	CM	D			
RADIO TERMINAL SEE AM/NERC-69(V)	service	X							Preventive maintenance.
	inspect	X							Preventive maintenance.
	test	X							System operation using built-in facilities.
									Continuity checks of signal and power circuits.
	repair			X				1-4, 6	Test in accordance with component maintenance allocation charts.
	rebuild overhaul								Repair as determined by component maintenance allocation charts.
	replace			X					Shelter facility only.
	replace					X		4, 5	By component.
AMPLIFIER GROUP OA-1390/ERC	replace								See TM 11-5820-278-12P for Maintenance Allocation.
AMPLIFIER GROUP OA-1398/ERC	replace								See TM 11-5820-279-12P for Maintenance Allocation.
AMPLIFIER GROUP OA-1394/ERC	replace								See TM 11-5820-282-12P for Maintenance Allocation.
AMPLIFIER GROUP OA-1396/ERC	replace								See TM 11-5820-309-12P for Maintenance Allocation.
ANTENNA ACCESSORIES GROUP OA-1398/ERC	replace								See TM 11-5820-287-20 for Maintenance Allocation.
ANTENNA FILTER GROUP OA-1391/ERC	replace								See TM 11-5820-311-12P for Maintenance Allocation.
ANTENNA FILTER GROUP OA-1393/ERC	replace								See TM 11-5820-312-12P for Maintenance Allocation.
ANTENNA FILTER GROUP OA-1395/ERC	replace								See TM 11-5820-310-12P for Maintenance Allocation.
ANTENNA FILTER GROUP OA-1397/ERC	replace								See TM 11-5820-293-12P for Maintenance Allocation.
ANTENNA GROUP OA-1389/ERC	replace								See TM 11-5820-302-12P for Maintenance Allocation.
POWER ACCESSORIES GROUP OA-1676/ERC	replace								See TM 11-5820-303-12P for Maintenance Allocation.
RADIO SET GROUP AM/TRA-25 and AM/TRA-25A	replace								See TM 11-5820-457-12P for Maintenance Allocation.
RADIO SET GROUP OA-1387/ERC	replace								See TM 11-5820-263-12P for Maintenance Allocation.

PART OR COMPONENT	MAINTENANCE FUNCTION	ECHO						TOOLS REQUIRED	REMARKS
		O/C	O	DS	GS	D			
AN/MRC-69(V) (continued)									
RADIO SET GROUP OA-3668A/TMC-24	replace								See TM 11-5820-287-20 for Maintenance Allocation.
ANTENNA AT-903/G	replace								See TM 11-5820-517-12P for Maintenance Allocation.
CONVERTER, TELEGRAPH-TELEPHONE SIGNAL TA-182/U	replace								See TM 11-5805-247-20 for Maintenance Allocation.
REEL UNIT RL-31, B, C, D, E	repair								See TM 11-362 for Maintenance Allocation.
SHELTER, ELECTRICAL EQUIPMENT S-178/MRC-69(V)	test		X					1	Continuity, Shelter Signal and power circuits, except 26-pair cable assemblies (Tool code 2 replaces Tool code 1 above organizational maintenance).
	repair		X			X		2,3 4,5	All test Except door panel, gasket, shids, and molding strip replacement.
	rebuild overhaul			X		X		4,5 4,5 4,5 4,5	Except shids and entrance door panel. All repairs.
CABLE ASSEMBLIES, POWER	repair		X			X		2,4	
CABLE ASSEMBLIES, 26-pair	test repair					X		2,3 4	Replace cable and repair or replace connector.
CONNECTOR, PLUG, ELECTRICAL U-185A,B/G	repair								See TM 11-5935-212-15P for Maintenance Allocation. U-185/G maintained by cannibalization; U-185/G replaced by attrition.
CONNECTOR, RECEPTACLE, ELECTRICAL U-187/U	repair								See TM 11-5935-205-15P for Maintenance Allocation.
CLOCK	repair								Responsibility of mobility command.
DISTRIBUTION BOX J-1077A/U	repair								See TM 11-6110-201-15P for Maintenance Allocation.
EXTINGUISHER, FIRE	repair								Responsibility of Engineer Corps.
INTERCOMMUNICATION STATION LS-147A,B,C,D/FI	repair								See TM 11-5830-221-12 for Maintenance Allocation.

Form 1151 (Supersedes Form 1151, which is obsolete) AN/MRC-69(V)

PART OR COMPONENT	MAINTENANCE FUNCTION	SECTION O/C O D: G: B	TOOLS REQUIRED	REMARKS
AN/MRC-69(V) (continued)				
TELEPHONE SET TA-312/PT	repair			See TM 11-2155 for Maintenance Allocation.
GENERATOR, RINGING, HAND G-42A/PT	repair			See TM 11-5805-257-127 for Maintenance Allocation.
HANDSET H-60/PT	repair			See TM 11-5965-224-157 for Maintenance Allocation.
TELEPHONE TERMINAL AN/TCC-7 and AN/TCC-50	repair			See TM 11-2139-20 for Maintenance Allocation.

# SECTION III. ALLOCATION OF TOOLS FOR MAINTENANCE FUNCTIONS

TOOLS REQUIRED FOR MAINTENANCE FUNCTIONS	EQUIPMENT						REMARKS
	O/C	O	DS	GS	D	TOOL CODE	
AN/MRC-69(V) (continued)							
MULTIMETER AN/URM-105						1	
MULTIMETER TS-352/U						2	
OHMMETER 2M-21A/U						3	
TOOL EQUIPMENT TE-123						4	
TOOL KIT, GENERAL MECHANICS (FSN 5180-754-0641)						5	
TOOLS AND TEST EQUIPMENT ASSOCIATED WITH COMPONENTS OF THIS EQUIPMENT						6	
NOTE: Depot may use any other types of tools and test equipment required to overhaul or rebuild this equipment.							



## APPENDIX IV

### ORGANIZATIONAL, DIRECT SUPPORT, GENERAL SUPPORT AND DEPOT MAINTENANCE REPAIR PARTS

---

#### Section I. INTRODUCTION

##### A4-1. Scope

This appendix contains a list of repair parts required for the performance of organizational maintenance and a list covering the corresponding requirements for direct support, general support, and depot maintenance for Radio Terminal Set AN/MRC-69 (V).

##### Note

No special tools, test, and support equipment are required.

##### A4-2. General

The repair parts list is divided into the following sections:

*a. Prescribed Load Allowance (PLA), Section II.* The PLA is a consolidated listing of repair parts allocated for initial stockage at the organizational maintenance category. This is a mandatory minimum stockage allowance.

*b. Repair Parts for Organizational Maintenance, Section III.* Repair parts authorized for organizational maintenance are included in this section.

*c. Repair Parts for Direct Support, General Support and Depot Maintenance, Section IV.* Repair parts authorized for direct support, general support, and depot maintenance are included in this section.

##### Note

All indexes noted below are cross referenced to index numbers. The index numbers appear in ascending sequence in column 1 of the repair parts list (para 3a). The index number for the particular item will be the same for the item in all sections of this appendix.

*d. Federal Stock Number Cross Reference to Index Number, Section V.* This is a cross reference index of Federal stock numbers to index numbers.

*e. Figure and Item Number Cross Reference Index Number, Section VI.* This is a cross reference index of figure number and item number (or reference designation) to index number. The figure numbers are listed in numerical sequence; item numbers and/or reference designations are listed for each figure.

*f. Reference Designation Cross Reference to Index Number, Section VII.* This is a cross reference index of reference designation to index number.

##### A4-3. Explanation of Columns

An explanation of the columns is given below.

*a. Source, Maintenance, and Recoverability Codes (SMR) and Index Number Column.* The first line in this column lists the applicable SMR codes for the part. Listed in ascending order directly below the SMR codes is the index number assigned to the repair part.

(1) *Source code (S).* The selection status and source for the listed item is noted here. Source code and its explanation is as follows:

Code	Explanation
P	Applies to repair parts that are stocked in or supplied from the GSA/DSA, or Army supply system and authorized for use at indicated maintenance categories.

(2) *Maintenance code (M).* The lowest category of maintenance authorized to install the listed item is noted here.

Code	Explanation
O	Organizational Maintenance
F	Direct Support Maintenance
H	General Support Maintenance

(3) *Recoverability code (R)*. The information in this column indicates whether un-serviceable items should be returned for recovery or salvage. Recoverability code and its explanation is as follows:

**Note**

When no code is indicated in the recoverability column, the part will be considered expendable.

<i>Code</i>	<i>Explanation</i>
-------------	--------------------

<i>R</i>	—Applies to repair parts and assemblies which are economically repairable at DSU and GSU activities and normally are furnished by supply on an exchange basis.
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*b. Federal Stock Number Column.* The Federal stock number for the item is listed in this column.

*c. Description Column.* This column includes the Federal item name and any additional description of the item required, the manufacturer's part number (reference number), and the applicable five-digit Federal Supply Code for Manufacturers (para A4-5). Also included in this column are the designators 1, 2, 3, 4, etc. listed under the heading *Usable on Code*. The designators, which are explained at the beginning of the description column in the repair parts list, indicate that the part is used on the models or serially numbered groups so identified.

*d. Unit of Issue Column.* The unit used as a basis of issue (e.g., ea, pr, ft, yd, etc.) is indicated in this column.

*e. Quantity Incorporated in Unit Pack Column.* Not used.

*f. Quantity Incorporated in Unit Column.* The quantity of repair parts in an assembly is given in this column.

*g. Maintenance Allowances Column.*

(1) The maintenance allowance columns are divided into subcolumns. Indicated in each subcolumn is the total quantity of items authorized for the number of equipments supported. Items authorized for use as required, but not for initial stockage, are identified with an asterisk (\*) in the allowance column.

(2) The quantitative allowances for organizational category of maintenance repre-

sents one initial prescribed load for a 15-day period for the number of equipments supported. Units and organizations authorized additional prescribed loads will multiply the number of prescribed loads authorized by the quantity of repair parts reflected in the appropriate density column to obtain the total quantity of repair parts authorized.

(3) Subsequent changes to organizational allowances will be limited as follows: No change in the range of items is authorized. If additional items are considered necessary, recommendation should be forwarded to Commanding General, U. S. Army Electronics Command, ATTN: AMSEL-ME-NMP-CC, Fort Monmouth, N. J. 07703, for exception or revision to the allowance list. Revisions to the range of items authorized will be made by the USA ECOM National Maintenance Point based upon engineering experience, demand data, or TAERS information.

(4) The quantitative allowances for DC/GS categories of maintenance will represent initial stockage for a 30-day period for the number of equipment supported.

*h. One-Year Allowances Per 100 Equipments/Contingency Planning Purposes Column.* The total quantity required for distribution and contingency planning purposes is indicated in this column. The range of items indicates total quantities of all authorized items required to provide for adequate support of 100 equipments for one year.

*i. Depot Maintenance Allowance Per 100 Equipments Column.* This column indicates the total quantity of each item authorized depot maintenance for 100 equipments.

*j. Illustrations Column.*

(1) *Figure number (a)*. The number of the illustration in which the item is shown is indicated in this column.

(2) *Item No. or reference designation (b)*. The callout number or reference designation used to reference the item in the illustration appears in this column.

#### A4-4. Location of Repair Parts

*a.* This appendix contains three cross-reference indexes (secs V, VI, and VII), to be used

to locate a repair part when either the Federal stock number, reference number, figure number, or reference designation and/or item number is known. The first column in each cross-reference index is prepared, as applicable, in numerical or alphanumerical sequence. The last column of each cross-reference index lists the index number assigned to the part.

b. Refer to the appropriate cross-reference index (para A4-2d, e, f) and note the index number in the last column; then refer to the repair parts list to locate the index number which is listed in ascending order in column 1 of the repair parts list.

#### A4-5. Federal Supply Codes

This paragraph lists the Federal supply code and the associated manufacturer's name.

<i>Code</i>	<i>Manufacturer</i>
02660	Amphenol Corp.
02777	Hopkins Engineering Co.
17465	Cutler-Hammer, Inc., Power Distribution and Control Div.

<i>Code</i>	<i>Manufacturer</i>
24455	General Electric Co., Lamp Div. of Consumer Products Group
24457	General Electric Co., Wire and Cable Dept.
32572	Justrite Mfg. Co.
33363	Keuffel and Esser Co.
33525	Kidde Walter and Co., Inc.
35017	Canada Wire and Cable Co., Ltd.
56365	Square D Co.
59730	Thomas and Betts Co.
60399	Torrington Mfg. Co.
65289	White-Rodgers Co.
70490	Wheelabrator Corp.
71468	ITT Cannon Electric, Inc.
72512	Davies Harry Molding Co.
72794	Dzus Fastener Co., Inc.
73586	Circle F. Industries
74545	Hubbell Harvey, Inc.
75915	Littlefuse, Inc.
79409	Woodhead Daniel Co.
80063	Army Electronics Command
81348	Federal Specifications
81349	Military Specifications
95344	Economy Cable Grip Co.

# SECTION II. PRESCRIBED LOAD ALLOWANCE

(1)  FEDERAL STOCK NUMBER	(2)  DESCRIPTION  USABLE ON CODE	(3) QTY INC IN UN PK	(4) 15-DAY ORG. MAINT. ALLOWANCE			
			(a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100
	SHELTER, ELECTRICAL EQUIPMENT S-178/MRC-69(V), S-178A,B,C,D,E,F/MRC-69(V)  NOTE: Model column 1 refers to S-178/MRC-69(V), column 2 refers to S-178A/MRC-69(V), column 3 refers to S-178B/MRC-69(V), column 4 refers to S-178C/MRC-69(V), column 5 refers to S-178D/MRC-69(V), column 6 refers to S-178E/MRC-69(V), column 7 refers to S-178F/MRC-69(V)					
5120-776-3917	GRIP, CABLE WOVEN: 16 in lg; Part No. EQA6-8P; 95344	1,2,3,4, 5,6,7	*	*	*	2
5120-776-9918	GRIP, CABLE WOVEN: 12 in lg; Part No. EQA26S; 95344	1,2,3,4, 5,6,7	*	*	2	2
5325-285-3371	LOCKSPRING, TURNLOCK FASTENER: U/on holders for axe, lantern, switchbox and ground rod, and back of terminal and distribution boxes; S4-225; 72794	1,2,3,4, 5,6,7	*	*	2	2
	LOCKSPRING, TURNLOCK FASTENER: U/on ventilator cover, switchboard holder, air filter cover and jackfield; S5-225; 72794	1,2,3,4, 5,6,7	*	*	*	2
5325-290-2893	STUD, TURNLOCK FASTENER: U/on ventilator covers; SM-B-364322; 80063	1,2,3,4, 5,6,7	*	*	*	2
5325-290-4345	LOCKSPRING TURNLOCK FASTENER: U/on distribution storage box; SM-B-370529; 80063	1,2,3,4, 5,6,7	*	*	2	2
5905-803-2908	RESISTOR, FIXED, COMPOSITION: 30,000 OLM, 1/4 w; ±5%; type RC09GF303J; 81349	1,2,3,4, 5,6,7	*	2	2	3
5910-553-6096	CAPACITOR, FIXED, PAPER DIELECTRIC: U/w fluorescent light fixture; Part No. 591A; 02777	1,2,3,4, 5,6,7	*	*	2	2
5925-252-4110	CIRCUIT BREAKER: 37.5 amps; Part No. 71-103D; 74193	1,2,3,4, 5,6,7	*	*	*	2
5925-682-1071	CIRCUIT BREAKER: 50 amps; Part No. QO-250; 56365	1,2,3,4, 5,6,7	*	*	*	2
5925-815-6657	CIRCUIT BREAKER: 15 amp tandem; QO-1515; 56365	2,3,4,5, 6,7	*	*	2	2
5925-818-4811	CIRCUIT BREAKER: 15 amps; Part No. QO-115; 56365	1	*	2	2	3
5925-818-4811		2,3,4,5, 6,7	*	*	2	2
5930-504-9923	SWITCH TOGGLE: T563K4; 17465	2,3,4,5, 6,7	*	*	*	2

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# SECTION II. PRESCRIBED LOAD ALLOWANCE (CONTINUED)

(1) FEDERAL STOCK NUMBER	(2) DESCRIPTION  USABLE ON CODE	(3) QTY INC IN UN PK	(4) 15-DAY ORG. MAINT. ALLOWANCE			
			(a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100
5930-615-7896	SWITCH, TOGGLE: On-off F/TA-182/U; MS-25098-22; 81349	1,2,3,4, 5,6,7	2	2	4	7
5930-636-4014	SWITCH TOGGLE: 5521-1; 24455	1,2,3,4, 5,6,7	*	*	2	2
5930-669-7465	SWITCH, SENSITIVE: blackout switch; SS-02B20; 81349	1,2,3,4, 5,6,7	*	*	*	2
5930-682-0349	SWITCH, THERMOSTATIC: P/o heater HD-375/U; SM-B-370087; 80063	1	*	*	*	2
5930-705-9131	SWITCH, ROTARY: P/o heater HD-375/U; SM-B-364936; 80063	1	*	*	*	2
5930-707-1313	SWITCH, THERMOSTATIC: P/o heater HD-375/U; SM-B-364695; 80063	1	*	*	*	2
5930-734-5202	SWITCH, THERMOSTATIC: P/o Electromode Heater; 10172H334A; 17465	2,3,4,5, 6,7	*	*	*	2
5935-045-9831	CONNECTOR, RECEPTACLE, ELECTRICAL U-186B/G	1,2,3,4, 5,6,7	*	*	2	2
5935-088-5887	CONNECTOR, PLUG, ELECTRICAL: P/o CX-4694A/U; SC-B-76446-2; 80063	1,2,3,4, 5,6,7	*	*	*	2
5935-149-3054	CONNECTOR, PLUG, ELECTRICAL: P/o CX-4773/U; Part No. 7101; 74545	1,2,3,4, 5,6,7	*	*	*	2
5935-234-2084	JACK, TELEPHONE: JJ085; 81349	1,2,3,4, 5,6,7	2	4	11	20
5935-257-6374	CONNECTOR, RECEPTACLE, ELECTRICAL: Type U-121/G; 81349	1,2,3,4, 5,6,7	*	*	2	2
5935-257-6397	CONNECTOR, RECEPTACLE, ELECTRICAL: F/AN/TRC systems; SM-B-364500; 80063	1,2,3,4, 5,6,7	*	*	2	2
5935-283-1269	JACK, TELEPHONE JJ-034	1,2,3,4, 5,6,7	*	*	2	2
5935-359-6025	CONNECTOR, RECEPTACLE, ELECTRICAL: Part No. 9210; 74545	1,2,3,4, 5,6,7	*	*	2	2
5935-549-3562	CONNECTOR, RECEPTACLE, ELECTRICAL: F/TA-182/U; SM-B-364496; 80063	1,2,3,4, 5,6,7	*	2	2	3
5935-577-8804	ADAPTER, CONNECTOR UG-1312/U	1,2,3,4, 5,6,7	*	*	*	2
5935-660-4302	CONNECTOR, PLUG, ELECTRICAL UG-573A/U; UG-573A/U; 81349	1,2,3,4, 5,6,7	*	*	2	2
5935-682-1070	CLAMP, ELECTRICAL: SM-B-364420; 80063	1,2,3,4, 5,6,7	*	*	*	2
5935-702-0127	CONNECTOR, RECEPTACLE, ELECTRICAL UG-570A/U; UG-570A/U; 81349	1,2,3,4, 5,6,7	*	*	2	2

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# SECTION II. PRESCRIBED LOAD ALLOWANCE (CONTINUED)

(1) FEDERAL STOCK NUMBER	(2) DESCRIPTION  USABLE ON CODE	(3) QTY INC IN UN PK	(4) 15-DAY ORG. MAINT. ALLOWANCE			
			(a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100
5935-775-2446	DUMMY, PLUG, TELEPHONE: SM-B-370299; 80063 1,2,3,4, 5,6,7		2	2	4	7
5940-195-9698	CLIP, SPRING TENSION: Retains dipoles and spare starters; SM-B-364283; 80063 1,2,3,4, 5,6,7		2	2	3	6
5940-223-5293	POST, BINDING: U-106/U; SC-DL-72398; 80063 1,2,3,4, 5,6,7		3	9	22	42
5940-254-2244	CAP ELECTRICAL: U/w U-106/U binding post; SC-C-76202-1; 80063 1,2,3,4, 5,6,7		3	9	22	42
5940-802-3771	SPLICE, CONNECTOR: U/w fluorescent light fixture; PT60M; 59730 1,2,3,4, 5,6,7		*	*	2	2
5975-682-0461	BUSHING, ELECTRICAL CONDUCTOR: U/am raceway conduit; SM-B-364531; 80063 1,2,3,4, 5,6,7		*	*	*	2
5975-702-9311	INSULATING, CAP: U/w wire splice PT60M; SM-B-364353; 80063 1,2,3,4, 5,6,7		*	2	2	3
5995-681-8427	CABLE ASSEMBLY, SPECIAL PURPOSE ELECTRICAL: CX-4768/U (2 ft); SM-C-363749-1; 80063 1,2,3,4, 5,6,7		2	2	4	7
5995-681-8449	CORD ASSEMBLY, ELECTRICAL CX-4695/U (3 ft 4-3/4 in): U/w LS-147C/FI; SC-DL-363182; 80063 1,2,3,4, 5,6,7		*	*	*	2
5995-729-8911	CORD ASSEMBLY, ELECTRICAL CX-4695/U (4 ft 6 in): U/w TA-312/PT; SC-DL-364134; 80063 1,2,3,4, 5,6,7		*	*	*	2
5995-985-7568	CABLE ASSEMBLY TELEPHONE CX-4566A/G (250 ft) 1,2,3,4, 5,6,7		*	*	*	2
6210-686-5568	SHIELD ELECTRIC LIGHT: F/fluorescent lamp; SM-B-335531; 80063 1,2,3,4, 5,6,7		*	*	2	2
6240-143-3070	LAMP INCANDESCENT: F/extension light; Part No. 50A/RS; 24455 1,2,3,4, 5,6,7		*	2	2	3
6240-155-7786	LAMP INCANDESCENT: (packed behind reflector in lantern); Part No. PR-2; 24455 1,2,3,4, 5,6,7		*	2	2	2
6240-223-9100	LAMP, GLOW: Type NE-51; 81349 1,2,3,4, 5,6,7		25	93	225	440
6240-223-9104	LAMP, GLOW: Type NE40; 81349 1,2,3,4, 5,6,7		*	2	2	2
6240-270-4286	LAMP, GLOW: Type NE-21; 81349 1,2,3,4, 5,6,7		2	6	16	29
6240-538-8447	LAMP, FLUORESCENT: Part No. F20T12/CW; 24455 1,2,3,4, 5,6,7		2	3	9	16

# SECTION II. PRESCRIBED LOAD ALLOWANCE (CONTINUED)

(1) FEDERAL STOCK NUMBER	(2) DESCRIPTION  USABLE ON CODE	(3) QTY INC IN UM PK	(4) 15-DAY ORG. MAINT. ALLOWANCE			
			(a) 1-5	(b) 5-20	(c) 21-50	(d) 51-100
6250-174-4684	LAMPHOLDER: Socket F/fluorescent lamp; 28X736; 24455	1,2,3,4, 5,6,7	*	*	2	2
6250-299-2884	STARTER, FLUORESCNET LAMP: Part No. FS-2; 24455	1,2,3,4, 5,6,7	*	*	2	2
6250-299-6093	LAMPHOLDER: Socket F/fluorescent lamp; 78X491; 24455	1,2,3,4, 5,6,7	*	*	2	2
6250-682-3462	LAMPHOLDER: F/indicator glow lamp NE21; SM-B-363028; 80063	1,2,3,4, 5,6,7	*	2	2	3
6250-682-3463	LAMPHOLDER: F/glow lamp NE40; 246; 73586	1,2,3,4, 5,6,7	*	*	*	2
6250-682-3481	LAMPHOLDER: F/neon lamp NE51; SM-B-364200; MS90287-22; 80063	1,2,3,4, 5,6,7	2	2	4	7
6250-804-3449	BALLAST, LAMP: SM-B-364481; 80003	1,2,3,4, 5,6,7	*	*	2	2
	STUD, SNAP FASTENER: U/on blackout curtain; SM-B-364228; 80063	1,2,3,4, 5,6,7	*	*	2	2
	CLIP, SPRING TENSION: Retains screwdriver; 107002; 75915	1,2,3,4, 5,6,7	*	*	*	2

AN/MRC-69(V)

NSC-FM 2263-67

# SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE

(1) SHR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOW				(8) ILLUSTRATIONS	
						(a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P-O-R A001	580-542-7298	RADIO TERMINAL SET AN/MRC-69(V): (This item is nonexpendable)									
		SHELTER, ELECTRICAL EQUIPMENT S-178/MRC-69(V), S-178A,B,C,D,E,F/MRC-69(V)									
		NOTE: Model column 1 refers to S-178/MRC-69(V), column 2 refers to S-178A/MRC-69(V), column 3 refers to S-178B/MRC-69(V), column 4 refers to S-178C/MRC-69(V), column 5 refers to S-178D/MRC-69(V), column 6 refers to S-178E/MRC-69(V), column 7 refers to S-178F/MRC-69(V)									
P-O A048	5935-577-8804	ADAPTER, CONNECTOR UG-1312/U	1,2,3,4, 5,6,7	ea	2	*	*	*	2		
P-O A049	6605-500-5315	AMMETER, type MR36W050SPECR; 81349	1,2,3,4, 5,6,7	ea	1	*	*	*	*	4-1	M2
P-O A050	4710-727-8111	AXE, SINGLE BIT: GGG-A-926B type 1, class 1, design "C"; 81348	1,2,3,4, 5,6,7	ea	1	*	*	*	*		
P-O A051	6250-804-3449	BALLAST, LAMP: SM-B-364481; 80063	1,2,3,4, 5,6,7	ea	6	*	*	2	2	4-3	
P-O A054	6645-633-3597	BRACKET: (F/mounting clock); SM-C-200852; 80063	1,2,3,4, 5,6,7	ea	1	*	*	*	*		
P-O A056	5975-682-0461	BUSHING, ELECTRICAL CONDUCTOR: U/am raceway conduit; SM-B-364531; 80063	1,2,3,4, 5,6,7	ea	2	*	*	*	2		
P-O A057	5975-688-4625	BUSHING, ELECTRICAL CONDUCTOR: P/o heater HD-375/U; SM-B-364174; 80063	1	ea	1	*	*	*	*	4-3	
P-O-R A059	5995-985-7568	CABLE ASSEMBLY TELEPHONE CX-4566A/G(450 ft)	1,2,3,4, 5,6,7	ea	1	*	*	*	2	1-3	
P-O-R A062	5975-681-8427	CABLE ASSEMBLY, SPECIAL PURPOSE ELECTRICAL: CX-4768/U (2 ft); SM-C-363749-1; 80063	1,2,3,4, 5,6,7	ea	28	2	2	4	7		
P-O A065	6145-682-3347	CABLE POWER, ELECTRICAL: P/o CX-4772/U and CX-4773/U; type C0021GF(2/18)0312; 81349	1,2,3,4, 5,6,7	ft	12	*	*	*	*	1-2	
P-O A066	6145-164-6948	CABLE POWER ELECTRICAL: U/w heater HD-375/U (2N. 16 awg); Part No. HPD; 35017	1	ft	6	*	*	*	*	4-3	
P-O A067	6145-752-2562	CABLE POWER ELECTRICAL: F/heater; 2 cond; Part No. SI-5325 type No. 65/.0063; 24457	2,3,4,5, 6,7	ft	6	*	*	*	*		
P-O A068	6145-752-2473	CABLE POWER ELECTRICAL: P/o CX-4693A/U and CX-4694A/U; SC-A-46608B; 80063	1,2,3,4, 5,6,7	ft	100	*	*	*	*		
P-O A071	5940-542-2244	CAP, ELECTRICAL: U/w U-106/U binding post SC-C-76202-1; 80063	1,2,3,4, 5,6,7	ea	302	3	9	22	42		
P-O A072	5910-553-6096	CAPACITOR, FIXED, PAPER DIELECTRIC: U/w Fluorescent light fixture; part No. 591A; 02777	1,2,3,4, 5,6,7	ea	6	*	*	2	2		
P-O A073	4010-171-4506	CHAIN, BEAD: Connects reel holder to wall; SM-B-364346; 80063	1,2,3,4, 5,6,7	ft	7	*	*	*	*		
P-O A075	5925-818-4811	CIRCUIT BREAKER: 15 amps; Part No. QO-115; 56365	1	ea	12	*	2	2	3	4-5	CB1 thru CB12
	5925-818-4811		2,3,4,5,6, 7	ea	4	*	*	2	2	4-5	CB3,4,9,10
P-O A076	5925-815-6657	CIRCUIT BREAKER: 15 amp tandem; QO-1515; 56365	2,3,4,5, 6,7	ea	4	*	*	2	2	4-5	CB1,2,5,6,11, 12
P-O A077	5925-682-1071	CIRCUIT BREAKER: 50 amps; Part No. QO-250; 56365	1,2,3,4, 5,6,7	ea	1	*	*	*	2	4-5	CB14A, CB14B
P-O A078	5925-252-4110	CIRCUIT BREAKER: 37.5 amps; Part No. 71-103D; 74193	1,2,3,4, 5,6,7	ea	1	*	*	*	2	4-5	CB13
P-O A079	5935-682-1070	CLAMP, ELECTRICAL: SM-B-364420; 80063	1,2,3,4, 5,6,7	ea	1	*	*	*	2		
P-O A080	5940-049-8791	CLIP, SPRING TENSION: Retains screwdriver; Part No. 107002; 75915	1,2,3,4, 5,6,7	ea	5	*	*	*	2		
P-O A081	5340-682-2217	CLIP, SPRING TENSION: Retains tools on board; SM-B-364923; 80063	1,2,3,4, 5,6,7	ea	4	*	*	*	*		
P-O A082	5940-195-9698	CLIP, SPRING TENSION: Retains dipoles and spare starters; SM-B-364283; 80063	1,2,3,4, 5,6,7	ea	102	2	2	3	6		

500-70 1200-07



# SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (CONTINUED)

(1) SMR CODE INDEX NO.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION  Reference Number & Mfr Code	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOW				(8) ILLUSTRATIONS	
						(a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P-O-R A083	6645-303-4950	CLOCK, AIRCRAFT, MECHANICAL: SM-B-364789; 80063	1,2,3,4, 5,6,7	ea	1	*	*	*	*		
P-O-R A084	6605-171-5121	COMPASS, MAGNETIC: Type 5600; 33363	1,2,3,4, 5,6,7	ea	1	*	*	*	*		
P-O A087	5935-149-3054	CONNECTOR PLUG, ELECTRICAL: P/o CX-4773/U; Part No. 7101; 74545	1,2,3,4, 5,6,7	ea	1	*	*	*	*		
P-U A088	5935-088-5887	CONNECTOR, PLUG, ELECTRICAL: F/o CX-4694A/U; SC-B-76446-2; 80063	1,2,3,4, 5,6,7	ea	1	*	*	*	*		
P-O A089	5935-892-9176	CONNECTOR, PLUG, ELECTRICAL: F/o CX-4693A/U and CX-4694A/U; SC-B-76446-1; 80063	1,2,3,4, 5,6,7	ea	1	*	*	*	*		
P-O A090	5935-518-9653	CONNECTOR, PLUG, ELECTRICAL UP-120/M: ME-9184-1; 81349	1,2,3,4, 5,6,7	ea	1	*	*	*	*		
P-O A091	5935-149-3666	CONNECTOR, PLUG, ELECTRICAL: P/o CX-4772/U; Part No. 7555; 74545	1,2,3,4, 5,6,7	ea	1	*	*	*	*	1-1	
P-O A092	5935-660-4302	CONNECTOR, PLUG, ELECTRICAL UG-573A/U; UG-573A/U; 81349	1,2,3,4, 5,6,7	ea	4	*	*	*	*	2	
P-O A093	5935-702-0127	CONNECTOR, RECEPTACLE, ELECTRICAL UG-570A/U; 81349	1,2,3,4, 5,6,7	ea	4	*	*	*	*		
P-O A094	5935-549-3562	CONNECTOR, RECEPTACLE, ELECTRICAL: F/TA-182/U; SM-B-364496; 80063	1,2,3,4, 5,6,7	ea	1	*	*	*	*	3	J31 thru J38, J43 thru J46
P-O A095	5935-257-6397	CONNECTOR, RECEPTACLE, ELECTRICAL: F/AN/TRC systems; SM-B-364500; 80063	1,2,3,4, 5,6,7	ea	4	*	*	*	*	2	J-5 thru J-8
P-O A096	5935-257-6374	CONNECTOR, RECEPTACLE, ELECTRICAL: Type U-121/G; 81349	1,2,3,4, 5,6,7	ea	4	*	*	*	*		
P-O A097	5935-537-4253	CONNECTOR, RECEPTACLE, ELECTRICAL: Power-in on dist box; Part No. 89-232-2P; 02660	1,2,3,4, 5,6,7	ea	1	*	*	*	*	6-5	J19
P-O A098	5935-666-1512	CONNECTOR, RECEPTACLE, ELECTRICAL: Power-out on dist box; Part No. 89-232-2S; 02660	1,2,3,4, 5,6,7	ea	1	*	*	*	*	6-5	J-0
P-O A099	5935-359-6025	CONNECTOR, RECEPTACLE, ELECTRICAL: Part No. 9210; 74545	1,2,3,4, 5,6,7	ea	5	*	*	*	*	2	6-5 J-1, J-3, J-4, J-29, J-30
P-O A100	5935-045-9831	CONNECTOR, RECEPTACLE, ELECTRICAL U-186P/G	1,2,3,4, 5,6,7	ea	6	*	*	*	*	2	4-9
P-O A101	5995-681-8449	CORD ASSEMBLY, ELECTRICAL CX-4695/U (3 ft 4-3/4 in): U/w LS-147C/FI; SC-DL-363182; 80063	1,2,3,4, 5,6,7	ea	1	*	*	*	*		
P-O A102	5995-729-8911	CORD ASSEMBLY, ELECTRICAL CX-4695/U (4 ft 6 in): U/w TA-312/PT; SC-DL-364134; 80063	1,2,3,4, 5,6,7	ea	1	*	*	*	*		
P-O A103	4030-805-1068	COUPLING BEAD CHAIN: 1/2 in lg; S-B-364347; 80063	1,2,3,4, 5,6,7	ea	4	*	*	*	*		
P-O A104	4030-267-7024	COUPLING BEAD CHAIN: W/u cable reel holder; SM-B-364618; 80063	1,2,3,4, 5,6,7	ea	4	*	*	*	*	1-3	
P-O A105	5935-258-0404	COVER, ELECTRICAL CONNECTOR MX-1142/U: F/antenna connectors, power entrance panel; ME-35325-112; 81349	1,2,3,4, 5,6,7	ea	4	*	*	*	*	1-1	
P-O A106	5935-729-0778	COVER, ELECTRICAL CONNECTOR: F/power-in and out connector; #CE9176; 71468	1,2,3,4, 5,6,7	ea	2	*	*	*	*	1-6	
P-O A107	7230-765-2351	CURTAIN, BLACKOUT, R. H.: SM-D-365465; 80063	1,2,3,4, 5,6,7	ea	1	*	*	*	*		
P-O A108		CURTAIN, BLACKOUT, L. H.: SM-D-363519; 80063	1,2,3,4, 5,6,7	ea	1	*	*	*	*		
P-O A115	5935-775-2446	DUMMY, PLUG, TELEPHONE: SM-B-370299; 80063	1,2,3,4, 5,6,7	ea	24	2	2	4	7		
P-O A123	5120-293-2692	EXTRACTOR ELECTRON TUBE: F/9 pin tube; SM-B-364371; 80063	1,2,3,4, 5,6,7	ea	1	*	*	*	*		
P-O A124		EXTRACTOR, ELECTRON TUBE: F/7 pin tube; SM-R-364370; 80063	1,2,3,4, 5,6,7	ea	1	*	*	*	*		
P-O A128	5120-776-9918	GRIP CABLE, WOVEN: 12 in lg; Part No. EQA26S; 95344	1,2,3,4, 5,6,7	ea	10	*	*	2	2		

AM/MRC-69(V)

ENC-PM 120-07

# SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOWANCE				(8) ILLUSTRATIONS	
						(a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P-0 A129	5126-776-9917	GRIP, CABLE WOVEN: 16 in lg; Part No. EQA6-8P; 95344	1,2,3,4, 5,6,7	ea	5	*	*	*	2		
P-0 A130	5120-251-4489	HAMMER, HAND: Spec GGG-H-86a, type SA-Class II; 81349	1,2,3,4, 5,6,7	ea	1	*	*	*	*		
P-0 A131	5975-661-0519	HANGER CABLE: U/to secure incoming cables to side of shelter; SM-B-363104; 80063	1,2,3,4, 5,6,7	ea	2	*	*	*	*	1-2	
P-0 A132	5820-706-7185	HEATING ELEMENT ELECTRICAL: P/o HD-375/U; SM-B-370092; 80063	1	ea	1	*	*	*	*		
P-0 A133	4540-404-9037	HEATING ELEMENT, ELECTRICAL: 3954-E; 70490	2,3,4,5, 6,7	ea	1	*	*	*	*	4-3	
P-0 A136	8895-766-8473	HOLDER, CABLE REEL: Retains cable reel in transit; SM-B-363238; 80063	1,2,3,4, 5,6,7	ea	2	*	*	*	*	1-3	
P-0 A137	5820-706-3036	HOOK: U/to stretch springs which retain AN/TSC-4; SM-B-364049; 80063	1,2,3,4, 5,6,7	ea	2	*	*	*	*	2-2	
P-0 A138	4440-761-0059	IMPELLER FAN, CENTRIFUGAL: A-16912; 60399	1,2,3,4, 5,6,7	ea	1	*	*	*	*		
P-0 A139	4440-765-7748	IMPELLER FAN AXIAL: P/o heater HD-375/U; GU-720-5; 60399	1	ea	1	*	*	*	*	4-1	
P-0 A140	4520-730-8305	IMPELLER FAN AXIAL: 20; 60399	2,3,4,5, 6,7	ea	1	*	*	*	*	4-3	
P-0 A141	5275-702-9311	INSULATING, CAP: U/w wire splice PT50M; SM-B-364353; 80063	1,2,3,4, 5,6,7	ea	12	*	2	2	3		
P-0 A144	5935-783-1269	JACK, TELEPHONE JJ-034	1,2,3,4, 5,6,7	ea	4	*	*	2	2		
P-0 A144	5935-234-7084	JACK, TELEPHONE: JJ085; 81349	1,2,3,4, 5,6,7	ea	132	2	4	11	20		
P-0 A145	5355-682-6806	KNOB: On-off knob on heater HD-475/U; 1600; 72512	1	ea	1	*	*	*	*	4-1	
P-0 A146	5540-894-6243	LADDER, VEHICLE BOARDING MX-3391/1; SC-DL-108736; 80063	1,2,3,4, 5,6,7	ea	1	*	*	*	*	1-1	
P-0 A147	6240-538-8447	LAMP, FLOURESCENT: Part No. F-0712/05; 24455	1,2,3,4, 5,6,7	ea	6	2	3	9	16	1-4	
P-0 A148	6240-174-1104	LAMP, GLOW: Type NF40; 81349	1,2,3,4, 5,6,7	ea	1	*	2	2	2	1-4	
P-0 A149	6240-174-1104	LAMP, GLOW: Type NF21; 81349	1,2,3,4, 5,6,7	ea	13	2	6	16	29	1-4	
P-0 A150	6240-223-5100	LAMP, GLOW: Type NF-51; 81349	1,2,3,4, 5,6,7	ea	24	25	23	225	440	1-4	
P-0 A151	6250-622-3403	LAMPHOLDER: F/glow lamp NF40; 24455	1,2,3,4, 5,6,7	ea	1	*	*	*	2		
P-0 A152	6250-622-3403	LAMPHOLDER: F/indicator glow lamp NF21; SM-B-363028; 80063	1,2,3,4, 5,6,7	ea	13	*	2	2	3	4-5	
P-0 A153	6250-993-6093	LAMPHOLDER: Socket f/flourescent lamp; 78491; 24455	1,2,3,4, 5,6,7	ea	6	*	*	2	2	4-7	
P-0 A154	6250-993-6093	LAMPHOLDER: Socket f/flourescent lamp; 78491; 24455	1,2,3,4, 5,6,7	ea	6	*	*	2	2	4-7	
P-0 A155	6250-682-3403	LAMPHOLDER: F/neon lamp NF51; SM-B-364000; MS90297-22; 80063	1,2,3,4, 5,6,7	ea	23	2	2	4	7		
P-0 A157	6240-143-3070	LAMP INCANDESCENT: F/extension light; Part No. 50A/RS; 24455	1,2,3,4, 5,6,7	ea	1	*	2	2	3	1-4	
P-0 A158	6240-155-7786	LAMP INCANDESCENT: (Packed behind reflector in lantern); Part No. PR-2; 24455	1,2,3,4, 5,6,7	ea	1	*	2	2	2	1-4	
P-0 A159	6230-729-9614	LANTERN, ELECTRIC: 6V; Model No. 4106-7; 33572	1,2,3,4, 5,6,7	ea	1	*	*	*	*	6-1	
P-0 A160	5410-752-2525	LEAD, ELECTRICAL: Ground conn; SM-B-364310; 80063	1,2,3,4, 5,6,7	ea	1	*	*	*	*	1-2	
P-0 A161	6230-615-5404	LIGHT EXTENSION: 25 ft; Part No. 800KS25-18-21; 9409	1,2,3,4, 5,6,7	ea	1	*	*	*	*		

28/MC-10(V)

REC-FM 129-47

# SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (CONTINUED)

(1) SHR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOW				(8) ILLUSTRATIONS	
						(a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P-O A162	5325-290-4345	LOCKSPRING TURNLOCK FASTENER: U/on distribution storage box; SM-B-370529; 80063	1,2,3,4, 5,6,7	ea	9	*	*	*	*		
P-O A163	5325-285-3331	LOCKSPRING, TURNLOCK FASTENER: U/on ventilator cover switchboard holder, air filter cover and jackfield; SS-225; 72794	1,2,3,4, 5,6,7	ea	6	*	*	*	*		
P-O A164	5325-285-3371	LOCKSPRING, TURNLOCK FASTENER: U/on holders for axe, lanterns, switchbox and ground rod, and back of terminal and distribution boxes; 84-225; 72794	1,2,3,4, 5,6,7	ea	17	*	*	*	*		
P-O-R A165	6104-561-6321	MOTOR, ALTERNATING CURRENT: P/o exhaust blowers; SM-B-363835; 80063	1,2,3,4, 5,6,7	ea	8	*	*	*	*		
P-O-R A166	6105-726-8684	MOTOR, ALTERNATING CURRENT: P/o heater; 5KSP51AL24C; 24455	1,2,3,4, 5,6,7	ea	1	*	*	*	*		
P-O A167	5315-550-5563	PIN-SPRING: U/w knob on cable reel holder rod; SM-B-370095; 80063	1,2,3,4	ea	4	*	*	*	*		
P-O A169	5940-223-5293	POST, BINDING: U-106/U, SC-DL-733R; 80063	1,2,3,4, 5,6,7	ea	20	*	*	*	*	4	
P-O A170	8130-656-1090	REEL CABLE RC-435/U	1,2,3,4, 5,6,7	ea	2	*	*	*	*		1-3
P-O A171	5905-603-2906	RESISTOR, FIXED, COMPOSITION: 30,000 OHM, 1/4w; ±5%; Type RC05GF303J; 81349	1,2,3,4, 5,6,7	ea	13	*	*	*	*	3	
P-O A172	5375-224-5260	ROD, GROUND MX-148/G	1,2,3,4, 5,6,7	ea	1	*	*	*	*		6-1
P-O A176	6210-686-5568	SHIELD, ELECTRIC LIGHT: F/fluorescent lamp; SM-B-335531; 80063	1,2,3,4, 5,6,7	ea	6	*	*	*	*	2	4-8
P-O A177	5940-802-3771	SPLICE, CONNECTOR: U/w fluorescent light fixture; PT60M; 59730	1,2,3,4, 5,6,7	ea	12	*	*	*	*	2	
P-O A178	6250-299-2884	STARTER, FLUORESCENT LAMP: Part No. FC-2; 24455	1,2,3,4, 5,6,7	ea	6	*	*	*	*	2	1-4
P-O A179	5325-202-4073	STUD, SNAF FASTENER: U/on blackout curtain; SM-B-364228; 80063	1,2,3,4, 5,6,7	ea	24	*	*	*	*	2	
P-O A180	5325-753-3735	STUD, TURNLOCK, FASTENER: U/on blackout curtain; SM-B-339413; 80063	1,2,3,4, 5,6,7	ea	3	*	*	*	*		
P-O A181	5325-290-2898	STUD, TURNLOCK FASTENER: U/on ventilator covers; SM-B-364322; 80063	1,2,3,4, 5,6,7	ea	6	*	*	*	*	2	
P-O A182	5930-705-2131	SWITCH, ROTARY: P/o heater HD-375/U; SM-B-364936; 80063	1	ea	1	*	*	*	*	2	4-1
P-O A183	5930-669-7465	SWITCH SENSITIVE: Blackout switch; SS-02B20; 81349	1,2,3,4, 5,6,7	ea	1	*	*	*	*	2	
P-O A184	5930-682-0349	SWITCH, THERMOSTATIC: P/o heater HD-375/U; SM-B-370087; 80063	1	ea	1	*	*	*	*	2	4-1
P-O A185	5930-707-1313	SWITCH, THERMOSTATIC: P/o heater HD-375/U; SM-B-364695; 80063	1	ea	1	*	*	*	*	2	4-1
P-O A186	5930-734-5202	SWITCH, THERMOSTATIC: P/o electromode heater; 10172H334A; 17465	2,3,4,5, 6,7	ea	1	*	*	*	*	2	
P-O A187	5930-504-9923	SWITCH, TOGGLE: T563K4; 17465	2,3,4,5, 6,7	ea	1	*	*	*	*	2	
P-O A188	5930-636-4014	SWITCH, TOGGLE: 5521-1; 24455	1,2,3,4, 5,6,7	ea	4	*	*	*	*	2	2
P-O A189	5930-615-7896	SWITCH, TOGGLE: On-off F/TA-182/U; MS-25098-22; 81349	1,2,3,4, 5,6,7	ea	24	2	2	4	7	6-1	
P-O-R A190	5210-221-1882	TAPE, MEASURING: SM-D-350561; 80063	1,2,3,4, 5,6,7	ea	1	*	*	*	*		1-2
P-O A191	5940-681-9807	TERMINAL STUD: SM-B-363337; 80063	1,2,3,4, 5,6,7	ea	1	*	*	*	*		1-6
P-O A192	6680-793-9575	THERMOSTAT: F/heater bimetallic type; H-2727-A; 65289	2,3,4,5, 6,7	ea	1	*	*	*	*		
P-O A193	5950-892-8224	TRANSFORMER, CURRENT: U/w ammeter; SM-B-364365; 80063	1,2,3,4, 5,6,7	ea	1	*	*	*	*		4-5

AN/MSC-62(V)

ESC-PC 2308-47

# SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE (CONTINUED)

(1) SHR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 15-DAY ORGANIZATIONAL MAINTENANCE ALLOW				(8) ILLUSTRATIONS	
						(a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
1-0 1-0 1-0		Reference Number & Mfr Code	USABLE ON CODE								
		2. GROMMETS: SM-14-64304; BONES	1, 2, 3, 4, 5, 6, 7	ea	1	*	*	*	*	4-5	
		WRENCH, DRAIN PLUG: SM-B-37(20); BAX	1, 2, 3, 4, 5, 6, 7	ea	1	*	*	*	*	6-1	

# SECTION IV REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1) SM CODE  INDEX NO.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION  REFERENCE NUMBER & I.R. CODE  USABLE ON CODE	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT PACK	(7) 30-DAY GS MAINT ALLOWANCE			(8) 30-DAY GS MAINT ALLOWANCE			(9) 1 YR ALWPER EQUIP CENTSY	(10) DEPOT MAINT ALWPER EQUIP CENTSY	(11) ILLUSTRATIONS	
						(a) 1-20	(b) 21-50	(c) 51-100	(a) 1-20	(b) 21-50	(c) 51-100			(a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P-O-R A001	5820-542-7298	RADIO TERMINAL SET AN/MRC-69(V): (This item is nonexpendable)  SHELTER, ELECTRICAL EQUIPMENT S-178/MRC-69(V), S-178A,B,C,D,E,F/MRC-69(V)  NOTE: Model column 1 refers to S-178/MRC-69(V), column 2 refers to S-178A/MRC-69(V), column 3 refers to S-178B/MRC-69(V), column 4 refers to S-178C/MRC-69(V), column 5 refers to S-178D/MRC-69(V), column 6 refers to S-178E/MRC-69(V), column 7 refers to S-178F/MRC-69(V)													
P-O A048	5935-577-8804	ADAPTER, CONNECTOR UG-1312/U	1,2,3,4, 5,6,7	ea											
P-O A049	6625-892-5315	AMMETER: TWT MR36W050SPECR; U1349	1,2,3,4, 5,6,7	ea	1	*	*	*	*	*	*				
P-O A050	4210-721-5111	ACE, SINGLE BIT: GGG-A-926B type 1 class 1 design "C"; 81348	1,2,3,4, 5,6,7	ea	1	*	*	*	*	*	*				
P-O A051	6250-804-3449	BALLAST, LAMP: SM-B-364481; 80063	1,2,3,4, 5,6,7	ea	6				*						
P-O A054	6645-633-3597	BRACKET: (F/mounting clock) SM-C-200852; 80063	1,2,3,4, 5,6,7	ea	1	*	*	*	*	*	*				
P-O A056	5975-682-0461	BUSHING, ELECTRICAL, CONDUCTOR: U/am raceway conduit SM-B-364531; 80063	1,2,3,4, 5,6,7	ea	1	*			*						
P-O A057	5975-688-4625	BUSHING, ELECTRICAL, CONDUCTOR: P/a heater HD-375/U SM-B-364174; 80063	1,2,3,4, 5,6,7	ea	1	*	*	*	*	*	*				
P-O-R A059	5995-985-7568	CABLE ASSEMBLY TELEPHONE CX-4566A/G (250 ft)	1,2,3,4, 5,6,7	ea	1	*			*						
P-O-R A062	5995-681-8427	CABLE ASSEMBLY, SPECIAL PURPOSE ELECTRICAL: CX-4768/U (2 ft); SM-C-363749-1; 80063	1,2,3,4, 5,6,7	ea	1	*	7	1*							
P-O A065	6145-682-3347	CABLE POWER ELECTRICAL: P/O CX-4772/U and CX-4773/U; type COO21GP(2/18)0312; 81349	1,2,3,4, 5,6,7	ft	12	*	*	*	*	*	*				
P-O A066	6145-164-6948	CABLE POWER ELECTRICAL: U/w heater HD-375/U (2N. 16 awg); part no. HPD: 35017	1	ft	6	*	*	*	*	*	*				
P-O A067	6145-752-2562	CABLE POWER ELECTRICAL: F/heater, 2 cond; part No. SI-5325, type No. 65/.0063; 24457	2,3,4,5, 6,7	ft	6	*	*	*	*	*	*				
P-O A068	6145-752-2473	CABLE POWER ELECTRICAL: P/O CX-4693A/U and CX-4694A/U; SC-A-46608B; 80063	1,2,3,4, 5,6,7	ft	100	*	*	*	*	*	*	500	1000		
P-H A069	6145-577-8480	CABLE, TELEPHONE WM-130/G; WM-130A/G	1,2,3,4, 5,6,7	ft	500				*	*	*	2500	5000		
P-F A070	6145-669-6522	CABLE TELEPHONE: P/O CX-4719/U; type WF-8/G; 81349	1,2,3,4, 5,6,7	ft	9	*	*	*	*	*	*	45	90		
P-O A071	5940-254-2244	CAP, ELECTRICAL: U/w U-106/U binding post; SC-C-76202-1; 80063	1,2,3,4, 5,6,7	ea	302	19	44	83	11	17	23	290	900		
P-O A072	5910-553-6096	CAPACITOR, FIXED, PAPER DIELECTRIC: U/w Fluorescent light fixture; part No. S91A; 02777	1,2,3,4, 5,6,7	ea	6	2	2	2	2	2	2	33	20		

AN/MRC-69(V)

NSC-PW 1207-07

## SECTION IV. REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS MAINT ALLOWANCE			(8) 30-DAY GS MAINT ALLOWANCE			(9) 1 YR ALW PER EQUIP CNTGTY	(10) DEPOT MAINT PER 100 EQUIP	(11) ILLUSTRATIONS	
						(a) 1-20	(b) 21-50	(c) 51-100	(a) 1-20	(b) 21-50	(c) 51-100			(a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P-O A073	4010-171-4506	CHAIN BEAD: Connects reel holder to wall; SM-B-364346; 80063	1,2,3,4, 5,6,7	ft	7	*	*	*	*	*	*	35	70		
P-O A075	5925-818-4811	CIRCUIT BREAKER: 15 amps; part No. QO-115; 56365	1	ea	12	2	3	6	2	2	3	71	50	4-5	CB1 thru CB12
	5925-818-4811		2,3,4,5, 6,7	ea	4	2	2	2	2	2	2	33	20	4-5	CB3,4,9, 10
P-O A076	5925-815-6657	CIRCUIT BREAKER: 15 amp tandem; QO-1515; 56365	2,3,4,5, 6,7	ea	4	2	2	3	2	2	2	33	20	4-5	CB1,2,5,6,11, 12
P-O A077	5925-682-1071	CIRCUIT BREAKER: 50 amp part No. QO-250; 56365	1,2,3,4, 5,6,7	ea	1	*	2	2	*	2	2	12	5	4-5	CB14A, CB14B
P-O A078	5925-252-4110	CIRCUIT BREAKER: 37.5 part No. 71-103D; 74193	1,2,3,4, 5,6,7	ea	1	*	2	2	*	2	2	12	5	4-5	CB13
P-O A079	5935-682-1070	CLAMP, ELECTRICAL: SM-B-364420; 80063	1,2,3,4, 5,6,7	ea	1	*	2	2	*	2	2	12	5		
P-O A080	5940-049-8791	CLIP, SPRING TENSION: Retains screwdriver; Part No. 107002; 75915	1,2,3,4, 5,6,7	ea	5	*	2	2	*	2	2	12	5		
P-O A081	5340-682-2217	CLIP, SPRING TENSION: Retains tools on board; SM-B-364423; 80063	1,2,3,4, 5,6,7	ea	4	*	*	2	*	*	2	10	4		
P-O A082	5940-195-9698	CLIP, SPRING TENSION: Retains dipoles and spare starters; SM-B-364283; 80063	1,2,3,4, 5,6,7	ea	102	2	6	11	2	2	3	130	100		
P-O-R A083	6645-303-4950	CLOCK, AIRCRAFT MECHANICAL: SM-B-364799; 80063	1,2,3,4, 5,6,7	ea	1	*	*	*	*	*	*	5	2		
P-O-R A084	6605-171-5121	COMPASS, MAGNETIC: type 5600; 14463	1,2,3,4, 5,6,7	ea	1	*	*	*	*	*	*	5	2		
P-F A085	5935-577-0302	CONNECTOR, PLUG, ELECTRICAL U-176/G	1,2,3,4, 5,6,7	ea	6	2	2	3	2	2	2	33	20		
P-H A086	5935-045-9830	CONNECTOR, PLUG, ELECTRICAL U-187B/G	1,2,3,4, 5,6,7	ea	2				*	2	2	19	10		
P-O A087	5935-149-3054	CONNECTOR, PLUG, ELECTRICAL: P/o CX-4773/U; part No. 7101; 74545	1,2,3,4, 5,6,7	ea	1	*	2	2	*	2	2	12	5		
P-O A088	5935-088-5887	CONNECTOR, PLUG, ELECTRICAL: P/o CX-4694A/U; SC-B-76446-2; 80063	1,2,3,4, 5,6,7	ea	1	*	2	2	*	2	2	12	5		
P-O A089	5935-892-9176	CONNECTOR, PLUG, ELECTRICAL: P/o CX-4693B/U and CX-4694A/U; SC-B-76446-1; 80063	1,2,3,4, 5,6,7	ea	1	*	*	2	*	*	*	8	3		
P-O A090	5935-518-9653	CONNECTOR, PLUG, ELECTRICAL UP-120/M; MS091184-1; 81349	1,2,3,4, 5,6,7	ea	1	*	*	2	*	*	*	8	3		
P-O A091	5935-149-3666	CONNECTOR, PLUG, ELECTRICAL: P/o CX-4772/U; part No. 7555; 74545	1,2,3,4, 5,6,7	ea	1	*	*	2	*	*	*	8	3	1-2	
P-O A092	5935-560-4302	CONNECTOR, PLUG, ELECTRICAL UG-573A/U; UG-573A/U; 81349	1,2,3,4, 5,6,7	ea	4	2	2	2	*	2	2	19	10		
P-O A093	5935-702-0127	CONNECTOR, RECEPTACLE, ELECTRICAL UG-570A/U; UG-570A/U; 81349	1,2,3,4, 5,6,7	ea	4	2	2	2	*	2	2	19	10		
P-O A094	5935-549-3562	CONNECTOR, RECEPTACLE, ELECTRICAL: F/TA-182/U; SM-B-364496; 80063	1,2,3,4, 5,6,7	ea	12	2	3	5	2	2	2	59	40	6-5	J31 thru J38, J43 thru J46
P-O A095	5935-257-6397	CONNECTOR, RECEPTACLE, ELECTRICAL: F/AN/TRC systems; SM-B-364500; 80063	1,2,3,4, 5,6,7	ea	4	2	2	2	*	2	2	19	10	6-5	J25 thru J28
P-O A096	5935-257-6374	CONNECTOR, RECEPTACLE, ELECTRICAL: Type U-121/G; 81349	1,2,3,4, 5,6,7	ea	4	2	2	2	*	2	2	19	10		

AM/MAC-69(V)

MAC-PM 2767-67

# SECTION IV. REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (CONTINUED)

(1) SNR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS MAINT ALLOWANCE			(8) 30-DAY GS MAINT ALLOWANCE			(9) 1 YR ALW PER EQUIP CENTGY	(10) DEPOT MAINT ALW PER EQUIP 100 EQUIP	(11) ILLUSTRATIONS	
						(a) 1-20	(b) 21-50	(c) 51-100	(a) 1-20	(b) 21-50	(c) 51-100			(a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P-O A097	5935-537-4253	CONNECTOR, RECEPTACLE, ELECTRICAL: Power-in on dist box; part No. 89-232-2P; 02660	1,2,3,4,5, 6,7	ea	1	*	*	2	*	*	*	8	3	6-5	J-19
P-O A098	5935-606-4512	CONNECTOR, RECEPTACLE, ELECTRICAL: Power-out on dist box; part No. 89-232-2S; 02660	1,2,3,4,5, 6,7	ea	1	*	*	2	*	*	*	8	3	6-5	J-20
P-O A099	5935-350-6025	CONNECTOR, RECEPTACLE, ELECTRICAL: Part No. 9210; 74545	1,2,3,4,5, 6,7	ea	5	2	2	2	2	2	2	27	15	6-5	J-1, J-23, J-24, J-29, J-30
P-O A100	5935-045-3631	CONNECTOR, RECEPTACLE, ELECTRICAL U-186B/G	1,2,3,4,5, 6,7	ea	6	2	2	3	2	2	2	33	20	4-1	
P-O A101	5935-601-0400	CORD ASSEMBLY, ELECTRICAL CA-695/U (2 ft 4-3/4 in): U/w LS-312/PT; SC-DL-363182; 80063	1,2,3,4,5, 6,7	ea	1	*	2	2	*	2	2	12	5		
P-O A102	5935-311-3911	CORD ASSEMBLY, ELECTRICAL CA-695/U (4 ft 6 in): U/w SA-312/PT; SC-DL-364134; 80063	1,2,3,4,5, 6,7	ea	1	*	2	2	*	2	2	12	5		
P-O A103	4030-805-1068	COUPLING, BEAD CHAIN: 1/2 in lg; SM-B-364347; 80063	1,2,3,4,5, 6,7	ea	4	*	*	2	*	*	2	10	4		
P-O A104	4030-267-7024	COUPLING, BEAD CHAIN: U/w cable reel holder; SM-B-364618; 80063	1,2,3,4,5, 6,7	ea	4	*	*	2	*	*	2	10	4	1-3	
P-O A105	5935-258-0404	COVER, ELECTRICAL CONNECTOR MX-1142/U: F/antenna connectors, power entrance panel; MS-35325-112; 81349	1,2,3,4,5, 6,7	ea	4	*	*	*	*	*	*	4	1	1-6	
P-O A106	5935-729-0778	COVER, ELECTRICAL CONNECTOR: F/power-in and out connector; HCE9176; 71468	1,2,3,4,5, 6,7	ea	2	*	*	*	*	*	*	5	2	1-6	
P-O A107	7230-765-2351	CURTAIN, BLACKOUT: R.H.; SM-D-365465; 80063	1,2,3,4,5, 6,7	ea	1	*	*	*	*	*	*	4	1		
P-O A108		CURTAIN, BLACKOUT, L.H.; SM-D-363519; 80063	1,2,3,4,5, 6,7	ea	1	*	*	*	*	*	*	4	1		
P-F A111	5820-715-3916	DOOR: F/Terminal box; SM-D-364054; 80063	1,2,3,4,5, 6,7	ea	1	*	*	*	*	*	*	4	1	1-5	
P-F A112	5820-715-3917	DOOR: F/power entrance box; SM-B-363770; 80063	1,2,3,4,5, 6,7	ea	1	*	*	*	*	*	*	4	1	1-5	
P-F A113	5820-706-3035	DOOR ASSEMBLY: F/ventilator openings; SM-B-363500; 80063	1,2,3,4,5, 6,7	ea	2	*	*	*	*	*	*	5	2		
P-F A114	5820-706-3037	DOOR ASSEMBLY: F/air filter; SM-C-364364; 80063	1,2,3,4,5, 6,7	ea	1	*	*	*	*	*	*	5	1	1-5	
P-O A115	5935-775-2446	DUMMY, PLUG, TELEPHONE: SM-B-370299; 80063	1,2,3,4,5, 6,7		24	3	7	11	2	3	3	158	125		
P-O A123	5120-293-2692	EXTRACTOR, ELECTRON TUBE: F/9 pin tube; SM-B-364371; 80063	1,2,3,4,5, 6,7	ea	1	*	*	*	*	*	*	4	1		
P-O A124		EXTRACTOR, ELECTRON TUBE: F/7 pin tube; SM-B-364370; 80063	1,2,3,4,5, 6,7	ea	1	*	*	*	*	*	*	4	1		
P-O A128	5120-776-9918	GRIP, CABLE, WOVEN: 12 in lg. part No. EQA26S; 95344	1,2,3,4,5, 6,7	ea	20	2	2	3	2	2	2	33	20		
P-O A129	5120-776-9917	GRIP, CABLE WOVEN: 16 in lg. part No. EQA6-8P; 95344	1,2,3,4,5, 6,7	ea	5	*	2	2	*	2	2	12	5		
P-O A130	5120-251-4489	HAMMER, HAND: spec GGU-H-86a, type SA; class II 81349	1,2,3,4,5, 6,7	ea	1	*	*	*	*	*	*	4	1		

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## SECTION IV. REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (CONTINUED)

(1) SMR CODE	(7) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS MAINT ALLOWANCE			(8) 30-DAY GS MAINT ALLOWANCE			(9) 1 YR ALW PER EQUIP CNTGCT	(10) DEPOT MAINT PER 100 EQUIP	(11) ILLUSTRATIONS	
						(a) 1-20	(b) 21-50	(c) 51-100	(a) 1-20	(b) 21-50	(c) 51-100			(a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P-0 A131	5975-682-0519	HANGER, CABLE: U/to secure incoming cables to side of shelter; SM-B-363104; 80063	1,2,3,4,5, 6,7	ea	2	*	*	*	*	*	*	5	1	1-2	
P-0 A132	5820-706-7185	HEATING ELEMENT ELECTRICAL: (P/o HD-375/U) SM-B-370092; 80063	1	ea	1	*	*	2	*	*	*	8	3		
P-0 A133	4540-404-4232	HEATING ELEMENT, ELECTRICAL: 3454-E; 794 #	2,3,4,5,6, 7	ea	1	*	*	2	*	*	*	8	3		
P-0 A136	3825-766-8473	HOLDER, CABLE REEL: Retains cable reel in transit; SM-B-365238; 80063	1,2,3,4,5, 6,7	ea	2	*	*	*	*	*	*	5	2	1-3	
P-0 A137	5820-706-3036	HOOK: U/to stretch springs which retain AN/TRC-24; SM-B-364049; 80063	1,2,3,4,5, 6,7	ea	2	*	*	*	*	*	*	5	2	2-2	
P-0 A138	4140-762-0029	IMPELLER, FAN, CENTRIFUGAL: A-16412; 60399	1,2,3,4,5, 6,7	ea		*	*	*	*	*	*	5	2		
P-0 A139	4140-765-7748	IMPELLER FAN AXIAL: (P/o heater HD-375/U) OU-720-5; 60399	1	ea	1	*	*	*	*	*	*	4	1	4-1	
P-0 A140	4520-792-8398	IMPELLER FAN AXIAL: 20; 60399	2,3,4,5,6, 7	ea	1	*	*	*	*	*	*	4	1	4-3	
P-0 A141	5975-702-9311	INSULATING, CAP: U/w wire splice PT60M; SM-B-364353; 80063	1,2,3,4,5, 6,7	ea	12	2	3	5	2	2	2	59	40		
P-0 A143	5935-283-1269	JACK, TELEPHONE JJ-034	1,2,3,4,5, 6,7	ea	4	2	2	2	*	2	2	19	10		
P-0 A144	5435-234-2084	JACK, TELEPHONE: 55085; 81349	1,2,3,4,5, 6,7	ea	132	8	20	38	5	8	10	460	400		
P-0 A145	5355-682-6806	KNOB: On-off knob on heater HD-375/U; 1600; 72512	1	ea	1	*	*	*	*	*	*	4	1	4-1	
P-0 A146	2540-892-6243	LADDER, VEHICLE BOARDING MX-3391/U: SC-DL-108736; 80063	1,2,3,4,5, 6,7	ea	1	*	*	*	*	*	*	4	1	1-1	
P-0 A147	6240-538-8447	LAMP, FLOURESCENT: Part No. F20T12/CW; 24455	1,2,3,4,5, 6,7	ea	6	6	16	29	4	6	7	352	300	1-4	
P-0 A148	6240-223-9104	LAMP, GLOW: Type NE40; 81349	1,2,3,4,5, 6,7	ea	1	2	3	6	2	2	2	71	50	1-4	
P-0 A149	6240-270-4286	LAMP, GLOW: Type NE-21; 81349	1,2,3,4,5, 6,7	ea	13	13	30	57	8	11	14	673	600	1-4	
P-0 A150	6240-223-9100	LAMP, GLOW: Type NE-51; 81349	1,2,3,4,5, 6,7	ea	24	179	435	860	109	163	205	10945	10000	1-4	
P-0 A151	6250-682-3463	LAMPHOLDER: F/glow lamp NE40; 246; 73586	1,2,3,4,5, 6,7	ea	1	*	2	2	*	2	2	12	5		
P-0 A152	6250-682-3462	LAMPHOLDER: F/indicator glow lamps NE21; SM-B-363028; 80063	1,2,3,4,5, 6,7	ea	13	2	3	6	2	2	2	71	50	4-5	
P-0 A153	6250-249-6093	LAMPHOLDER: Socket f/flourescent lamp; 78X491; 24455	1,2,3,4,5, 6,7	ea	6	2	3	4	2	2	2	46	30	4-7	
P-0 A154	6250-174-4684	LAMPHOLDER: Socket f/flourescent lamp; 28X736; 24455	1,2,3,4,5, 6,7	ea	6	2	3	4	2	2	2	46	30	4-7	
P-0 A155	6250-682-3481	LAMPHOLDER: F/xeon lamp NE-51 SM-B-364200 MS90287-22; 80063	1,2,3,4,5, 6,7	ea	23	3	7	13	2	3	3	158	125		
P-0 A157	6240-143-3070	LAMP, INCANDESCENT: F/extension light; part No. 50A/RS; 24455	1,2,3,4,5, 6,7	ea	1	2	3	6	2	2	2	71	50	1-4	
P-0 A158	6240-155-7786	LAMP, INCANDESCENT: (packed behind reflector in lantern) part No. PR-2; 24455	1,2,3,4,5, 6,7	ea	1	2	3	6	2	2	2	71	50	1-4	
P-0 A159	6230-729-9614	LANTERN, ELECTRIC: 6V; model No. 2106-7; 32572	1,2,3,4,5, 6,7	ea	1	*	*	*	*	*	*	5	2	6-1	
P-0 A160	5410-752-2525	LEAD, ELECTRICAL: Ground conn; SM-B-364318; 80063	1,2,3,4,5, 6,7	ea	1	*	*	*	*	*	*	5	2	1-2	
P-0 A161	6230-615-5384	LIGHT, EXTENSION: 25 ft; part No. 506KS25-18-2SJ; 79409	1,2,3,4,5, 6,7	ea	1	*	*	*	*	*	*	5	2		

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# SECTION IV. REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS MAINT ALLOWANCE			(8) 30-DAY GS MAINT ALLOWANCE			(9) 1 YR ALW PER EQUIP CMTG	(10) DEPOT MAINT ALW PER EQUIP CMTG	(11) ILLUSTRATIONS	
						(a) 1-20	(b) 21-50	(c) 51-100	(a) 1-20	(b) 21-50	(c) 51-100			(a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P-0 A162	5325-290-4345	LOCKSPRING TURNLOCK FASTENER: U/on distribution storage box; SM-B-370529; 80063	1,2,3,4,5, 6,7	ea	9	2	2	2	*	2	2	18	9		
P-0 A163		LOCKSPRING, TURNLOCK FASTENER: U/on ventilator cover, switchboard holder, air filter cover and jackfield; 55-225; 72794	1,2,3,4,5, 6,7	ea	6	*	2	2	*	2	2	13	6		
P-0 A164	5325-285-3371	LOCKSPRING, TURNLOCK FASTENER: U/on holders for axe, lantern, switchbox and ground rod, and back of terminal and distribution boxes; 54-225; 72794	1,2,3,4,5, 6,7	ea	17	2	2	2	2	2	2	27	15		
P-0-R A165	6105-561-6321	MOTOR, ALTERNATING CURRENT: (P/o exhaust blowers) SM-B-363835; 80063	1,2,3,4,5, 6,7	ea	2	*	*	2	*	*	2	10	4		
P-0-R A166	6105-726-8684	MOTOR, ALTERNATING CURRENT: (P/o heater) 5KSP51A124C; 24455	1,2,3,4,5, 6,7	ea	1	*	*	*	*	*	*	5	2		
P-0 A167	5315-550-5563	PIN-SPRING: U/w knob on cable reel holder rod; SM-B-370095; 80063	1,2,3,4	ea	4	*	*	2	*	*	2	10	4		
P-0 A169	5940-223-5293	POST, BINDING: U-106/U; SC-DL-72398; 80063	1,2,3,4,5, 6,7	ea	302	19	44	83	11	17	23	990	900		
P-0 A170	8130-656-1090	REEL, CABLE RC-435/U	1,2,3,4,5, 6,7	ea	2	*	*	*	*	*	*	4	1	1-3	
P-0 A171	5905-803-2908	RESISTOR, FIXED, COMPOSITION: 30,000 ohm, 1/4 w; 5% type MC09GF303J; 81349	1,2,3,4,5, 6,7	ea	13	2	3	5	2	2	2	59	40		
P-0 A172	5975-224-5260	ROD, GROUND MX-148/G	1,2,3,4,5, 6,7	ea	1	*	*	*	*	*	*	5	2	6-1	
P-0 A176	6210-686-5568	SHIELD, ELECTRIC LIGHT: F/fluorescent lamp; SM-B-335531; 80063	1,2,3,4,5, 6,7	ea	6	2	3	4	2	2	2	46	30	4-8	
P-0 A177	5940-802-3771	SPLICE, CONNECTOR: U/w fluorescent light fixture; PT60M; 59730	1,2,3,4,5, 6,7	ea	12	2	2	2	*	2	2	19	10		
P-0 A178	6250-299-2884	STARTER, FLOURESCENT LAMP: Part No. FS-2; 24455	1,2,3,4,5, 6,7	ea	6	2	3	4	2	2	2	46	30	1-4	
P-0 A179		STUD, SNAP FASTENER: U/on blackout curtain; SM-B-364228; 80063	1,2,3,4,5, 6,7	ea	24	2	2	3	2	2	2	40	25		
P-0 A180	5325-753-3735	STUD, TURNLOCK FASTENER: U/on blackout curtain; SM-B-335413; 80063	1,2,3,4,5, 6,7	ea	3	*	*	2	*	*	*	8	3		
P-0 A181	5325-290-2898	STUD, TURNLOCK FASTENER: U/on ventilator covers; SM-B-364322; 80063	1,2,3,4,5, 6,7	ea	6	*	2	2	*	2	2	13	6		
P-0 A182	5930-705-9131	SWITCH, ROTARY: (P/o heater HD-375/U) SM-B-364936; 80063	1	ea	1	*	2	2	*	2	2	12	5	4-1	
P-0 A183	5930-669-7465	SWITCH, SENSITIVE: Blackout switch; SS-02B20; 81349	1,2,3,4,5, 6,7	ea	1	*	2	2	*	2	2	12	5		
P-0 A184	5930-682-0349	SWITCH, THERMOSTATIC: (P/o heater HD-375/U) SM-B-370087; 80063	1	ea	1	*	2	2	*	2	2	12	5	4-1	
P-0 A185	5930-707-1313	SWITCH, THERMOSTATIC: (P/o heater HD-375/U) SM-B-364695; 80063	1	ea	1	*	2	2	*	2	2	12	5	4-1	
P-0 A186	5930-734-5202	SWITCH, THERMOSTATIC: (P/o electrode heater) 10172H334A; 17465	2,3,4,5,6, 7	ea	1	*	2	2	*	2	2	12	5		

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# SECTION IV. REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (CONTINUED)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS MAINT ALLOWANCE			(8) 30-DAY GS MAINT ALLOWANCE			(9) 1 YR ALW PER EQUIP CATG	(10) DEPOT MAINT ALW PER 100 EQUIP	(11) ILLUSTRATION:	
						(a) 1-20	(b) 21-50	(c) 51-100	(a) 1-20	(b) 21-50	(c) 51-100			(a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P-0 A187	5930-504-9923	SWITCH, TOGGLE: T563K4; 17465	2,3,4,5,6, 7	ea	1	*	2	2	*	2	2	12	5		
P-0 A188	5930-636-4014	SWITCH, TOGGLE: 5521-1; 24455	1,2,3,4,5, 6,7	ea	4	2	2	3	2	2	2	33	20		
P-0 A189	5930-615-7896	SWITCH, TOGGLE: On-off r/TA-182/U; MS-25098-22; 81349	1,2,3,4,5, 6,7	ea	24	3	7	13	2	3	3	158	125	6-1	
P-0-R A190	5210-221-1882	TAPE, MEASURING: SM-D-350961; 80063	1,2,3,4,5, 6,7	ea	1	*	*	2	*	*	*	8	3	1-2	
P-0 A191	5940-681-9807	TERMINAL STUD: SM-B-36337; 80063	1,2,3,4,5, 6,7	ea	1	*	*	*	*	*	*	5	2	1-6	
P-0 A192	6680-793-9575	THERMISTAT: F/heater; bimetallic type; H-2727-A; 65289	2,3,4,5,6, 7	ea	1	*	*	*	*	*	*	5	2		
P-0 A193	5950-892-8224	TRANSFORMER, CURRENT: U/w ammeter SM-B-364365; 80063	1,2,3,4,5, 6,7	ea	1	*	*	2	*	*	*	8	3	4-5	
P-0 A194	6625-883-4272	VOLTMETER: SM-B-364364; 80063	1,2,3,4,5, 6,7	ea	1	*	*	2	*	*	2	10	4	4-5	
P-0 A195		WRENCH, DRAIN PLUG: SM-B-370021; 80063	1,2,3,4,5, 6,7	ea		*	*	*	*	*	*	5	2	6-1	

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# SECTION V. INDEX-FEDERAL STOCK NUMBER CROSS REFERENCE TO INDEX NUMBER

FEDERAL STOCK NUMBER	INDEX NO.	FEDERAL STOCK NUMBER	INDEX NO.	FEDERAL STOCK NUMBER	INDEX NO.
2540-892-6243	A146	5925-682-1071	A077		
3895-766-8473	A136	5925-752-4110	A078	5940-195-9698	A082
4010-171-4506	A073	5925-815-6657	A076	5940-223-5293	A169
4030-267-7024	A104	5925-818-4811	A075	5940-254-2244	A071
4030-805-1068	A103	5930-504-9923	A187	5940-681-9807	A191
4140-762-0029	A138	5930-615-7896	A189	5940-802-3771	A177
4140-765-7748	A139	5930-636-4014	A188	5950-892-8224	A193
4210-727-8111	A050	5930-669-7465	A183	5975-224-5260	A172
4520-792-8398	A140	5930-682-0349	A184	5975-682-0461	A056
4540-404-9232	A133	5930-705-9131	A182	5975-682-0519	A131
5120-251-4489	A130	5930-707-1313	A185	5975-688-4625	A057
5120-293-2693	A123	5930-734-5202	A186	5975-702-9311	A141
		5935-045-9830	A086	5995-681-8427	A062
		5935-045-9831	A100	5995-681-8449	A101
5120-776-9917	A129	5935-088-5887	A088	5995-729-8911	A102
5120-776-9918	A128	5935-149-3054	A087	5995-985-7568	A059
5210-221-1882	A190	5935-149-3666	A091	6105-561-6321	A165
5315-550-5563	A167	5935-234-2084	A144	6105-726-8684	A166
5325-202-4073	A179	5935-257-6374	A096	6145-164-6948	A066
5325-285-3371	A164	5935-257-6397	A095	6145-577-8480	A069
		5935-258-0404	A105	6145-669-6522	A070
5325-290-2898	A181	5935-283-1269	A143	6145-682-3347	A065
5325-290-4345	A162	5935-359-6025	A099	6145-752-2473	A068
5325-753-3735	A180	5935-518-9653	A090	6145-752-2562	A067
		5935-537-4253	A097	6210-686-5568	A176
5340-682-2217	A081	5935-549-3562	A094	6230-615-5384	A161
5355-682-6806	A145	5935-577-0302	A085	6230-729-9614	A159
5410-752-2525	A160	5935-577-8804	A048	6240-143-3070	A157
5820-706-3035	A113	5935-660-4302	A092	6240-155-7786	A158
5820-706-3036	A137	5935-666-4512	A098	6240-223-9100	A150
5820-706-3037	A114	5935-682-1070	A079	6240-223-9104	A148
5820-706-7185	A132	5935-702-0127	A093	6240-270-4286	A149
5820-715-3916	A111	5935-729-0778	A106	6240-538-8447	A147
5820-715-3917	A112	5935-775-2446	A115	6250-174-4684	A154
5905-803-2908	A171	5935-892-9176	A089	6250-299-2884	A178
5910-553-6096	A072				

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**SECTION V. INDEX-FEDERAL STOCK NUMBER CROSS REFERENCE**  
**TO INDEX NUMBER (CONTINUED)**

<u>FEDERAL STOCK NUMBER</u>	<u>INDEX NO.</u>	<u>FEDERAL STOCK NUMBER</u>	<u>INDEX NO.</u>	<u>FEDERAL STOCK NUMBER</u>	<u>INDEX NO.</u>
6250-299-6093	A153				
6250-680-3462	A152				
6250-682-3481	A155				
6250-804-3449	A151				
6250-682-3463	A151				
6605-171-5121	A084				
6605-883-4272	A194				
6605-892-5315	A049				
6645-302-4950	A083				
6645-633-3597	A054				
6690-793-9575	A192				
7230-765-2351	A107				
8130-650-1990	A170				
<u>REF</u> <u>NUMBER</u>	<u>INDEX</u> <u>NO.</u>				
85- 5	A163				

# SECTION VI. INDEX-FIGURE AND ITEM NUMBER CROSS REFERENCE TO INDEX NUMBER

FIG. NO.	ITEM NO. OR REFERENCE DESIGNATION	INDEX NO.	FIG. NO.	ITEM NO. OR REFERENCE DESIGNATION	INDEX NO.
4-1	M2	A049			
	CB1,2 -- 2,3,4,5,6,7	A076			
	CB7,8 -- 2,3,4,5,6,7	A076			
	CB1 thru CB10 -- 1	A075			
	CB11,12 -- 2,3,4,5,6,7	A076			
	CB13	A078			
	CB14A,	A077			
	CB14B				
6-5	J19	A057			
	J20	A058			
	J21	A059			
	J23,	A059			
	J24				
	J25,	A055			
	J26,				
	J27,				
	J28				
	J30	A059			
	J31 thru	A054			
	J35,				
	J43 thru				
	J46				

# SECTION VII. INDEX-REFERENCE DESIGNATION CROSS REFERENCE TO INDEX NUMBER

REFERENCE DESIGNATION	INDEX NO.	REFERENCE DESIGNATION	INDEX NO.	REFERENCE DESIGNATION	INDEX NO.
CB1,2 -- 2,3,4,5,6,7	A076				
CB3,4 -- 2,3,4,5,6,7	A075				
CB5,6 -- 2,3,4,5,6,7	A076				
CB9,10 -- 2,3,4,5,6,7	A075				
CB11,12 -- 2,3,4,5,6, 7	A076				
CP1 thru CB12 -- 1	A075				
CB13	A078				
CB14A, CB14B	A077				
J19	A097				
J20	A098				
J21	A099				
J23, J24	A099				
J25 thru J28	A095				
J29	A099				
J30	A099				
J31 thru J38, J43 thru J46	A094				
M2	A049				

By Order of the Secretary of the Army:

HAROLD K. JOHNSON,  
General, United States Army,  
Chief of Staff.

Official:

J. C. LAMBERT,  
Major General, United States Army,  
The Adjutant General.

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USACDCARTYA (1)  
USACDCSWA (1)  
USACDCCEA (Ft Huachuca) (1)  
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Br Svc Sch (2) except  
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USAARMS (5)  
USASESCS (40)

USASCS (20)  
GENDEP (2)  
Sig Sec, GENDEP (5)  
Sig Dep (12)  
Army Dep (2) except SAAD (30)  
TOAD (14), FTWOAD (10), LEAD (7)  
SHAD (3), NAAD, SVAD (5)  
CHAD (3), ATAD (10), LBAD (14)  
USASCC (4)  
USATC AD (2)  
USATC Armor (2)  
USATC Engr (2)  
USATC Inf (2)  
USASTC (2)  
WRAMC (1)  
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11-37  
11-38  
11-55  
11-56  
11-57  
11-58  
11-97  
11-98  
11-117  
11-155  
11-157  
11-337

**11-500 (AA-AE) (4)**  
**11-587**  
**11-592**

**11-597**  
**17**  
**37**

**NG: State AG (3); Units—Same as Active Army except allowance is one copy to each unit.**

**USAR: None.**

**For explanation of abbreviations used, see AR 320-50.**

✧ U.S. GOVERNMENT PRINTING OFFICE : 1990 O - 261-872 (20525)



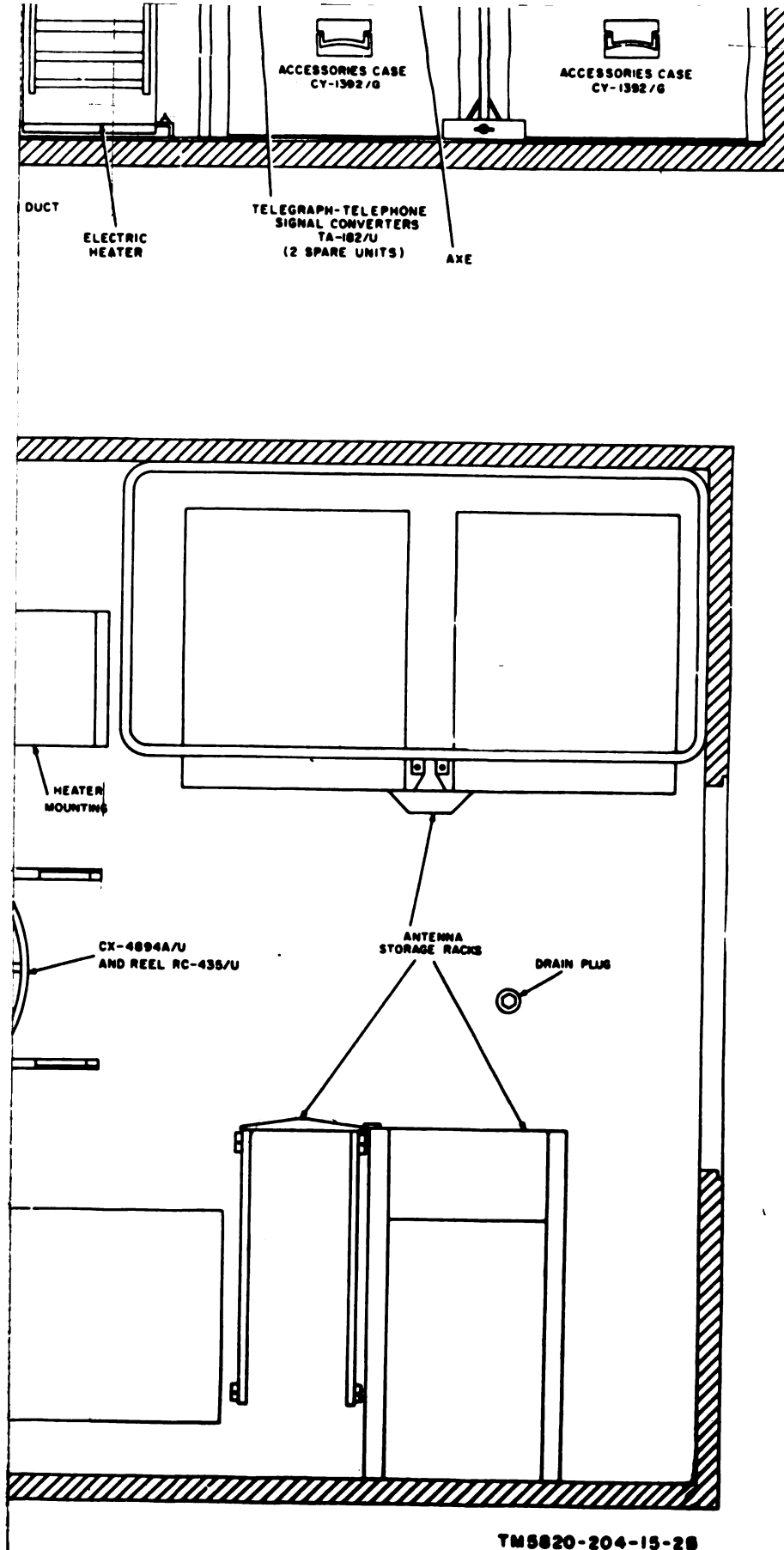


Figure 6-1. Radio Terminal Set AN/MRC-69(V), floor plan and elevation drawings.

ANTENNA DIPOLE  
 AT-412/TMC  
 ANTENNA DIPOLE  
 AT-413/TMC  
 FIRST AID KIT  
 SWITCH BOX  
 SA-331/U

ANTENNA REFLECTOR  
 AT-414/TMC

ANTENNA  
 REFLECTOR SUPPORT  
 AS-325/TMC

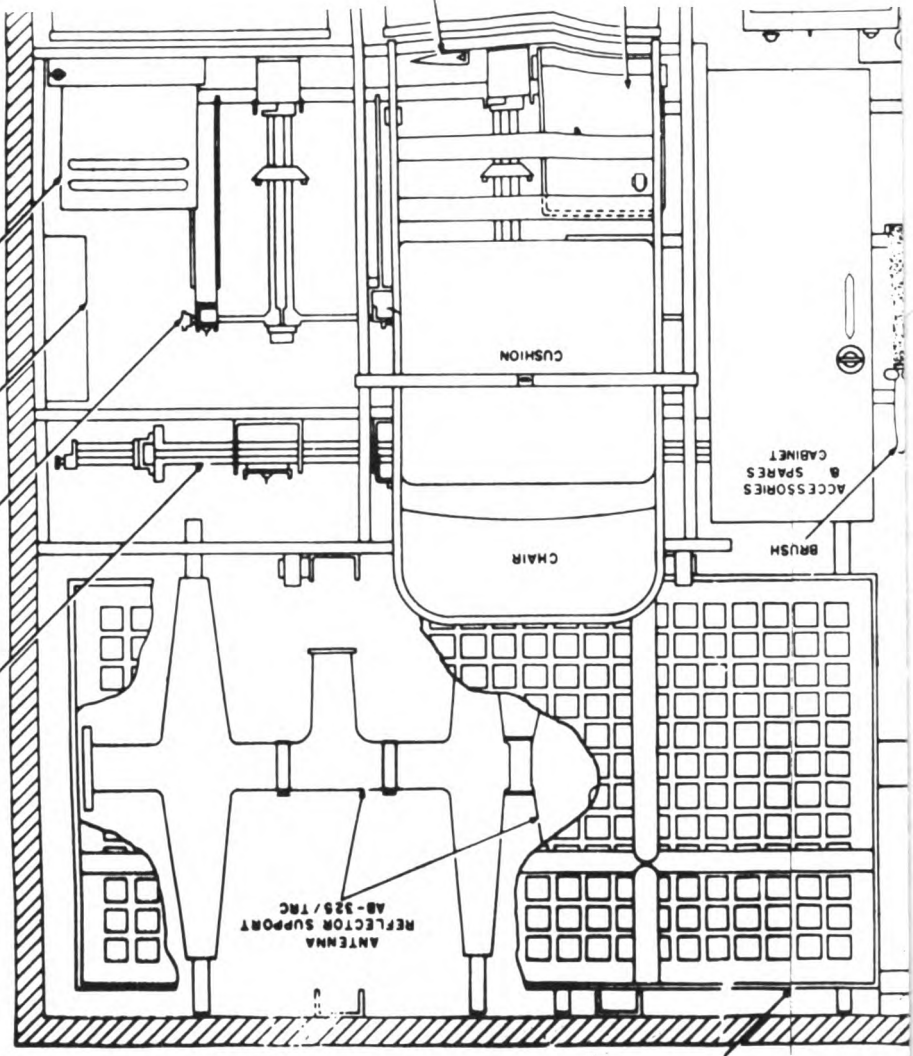
CHAIR

CUSHION

ACCESSORIES  
 & SPARES  
 CABINET

BRUSH

NAT HOOK



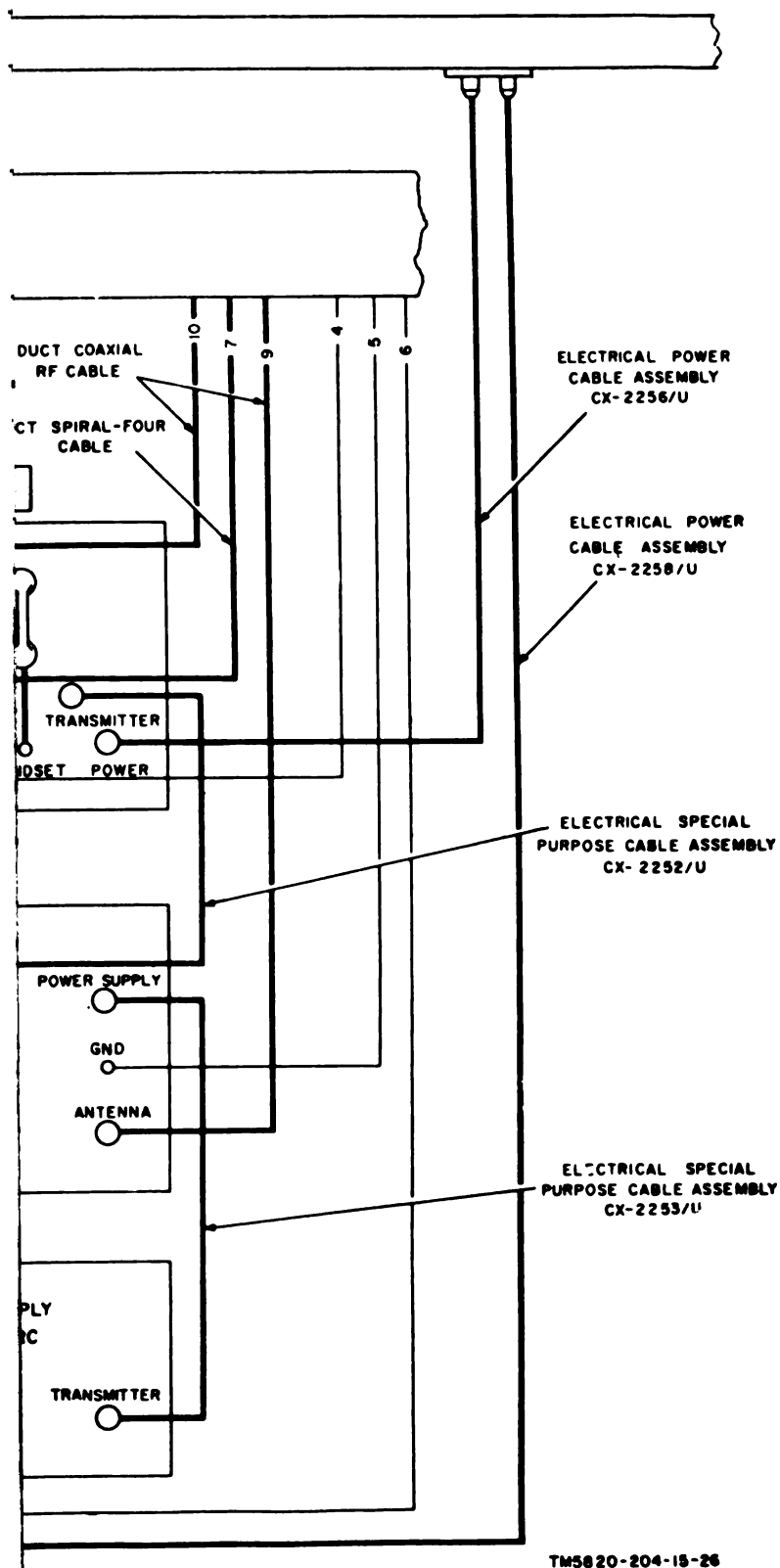
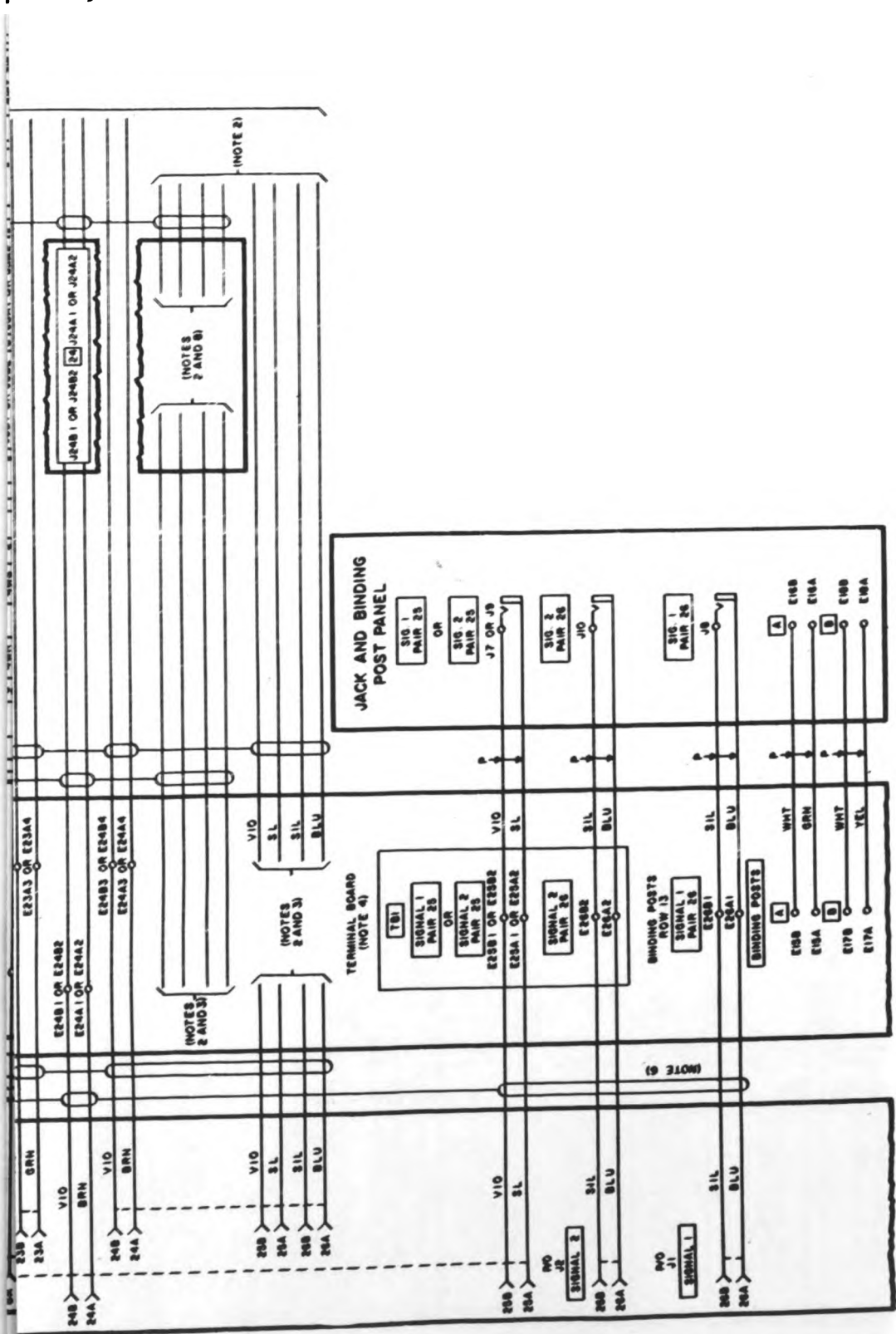


Figure 6-2. Radio facilities cabling diagram.





17 COLOR CODING OF PAIRS  
18 COLOR CODING OF 26-F  
SHOWN BELOW:

CONTACT NUMBER	COLOR CODE
1 D	WHT
1 A	YEL
2 B	WHT
2 A	GRN
3 B	WHT
3 A	BLK
4 D	WHT
4 A	PINK OR RED
5 D	WHT
5 A	LT-GRN
6 D	WHT
6 A	DARK-GRN
7 B	WHT
7 A	SIL
8 B	WHT
8 A	DARK-GRN
9 B	WHT
9 A	LT-GRN
10 B	WHT
10 A	VIO
11 D	WHT
11 A	SL
12 D	WHT
12 A	LT-BLU
13 B	WHT
13 A	DARK-BLU

19 FOUR WIRE PAIRS AND  
20 WIRE PAIRS USED FOR

1

CONTACT NUMBER	COLON CODE
148	BLR
144	SLI
135	BLR
134	BL
104	BLR
100	L7-9M
129	BLR
174	DATA-9M
108	BLR
154	VEL
199	BLR
194	L7-9LU
209	BLR
204	DATA-9LU
210	BLR
214	L7-9M
220	BLR
264	DATA-9M
233	BLR
234	OMH
240	BLR
244	WIO
200	BLR
214	DATA-9M
204	DATA-9M
204	DATA-9M
204	NEB

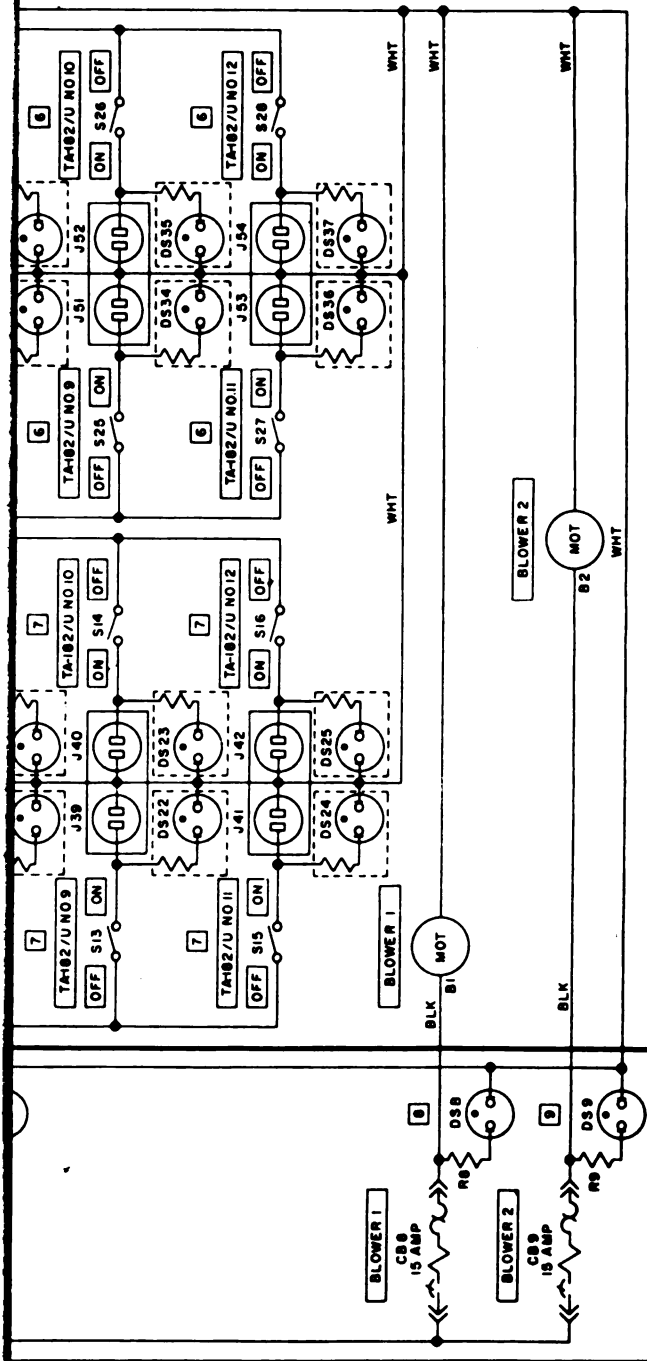
4. PAR CABLE USED FOR SYSTEM 2.  
SYSTEM 1.

7-20020-204-45-20









TM5820-204-15-29

Figure 6-5. Shelter, Electrical Equipment S-178(\*)/MRC-69(V),  
ac power schematic wiring diagram.





PIN : 018362-000